Electronic Services - Los Angeles
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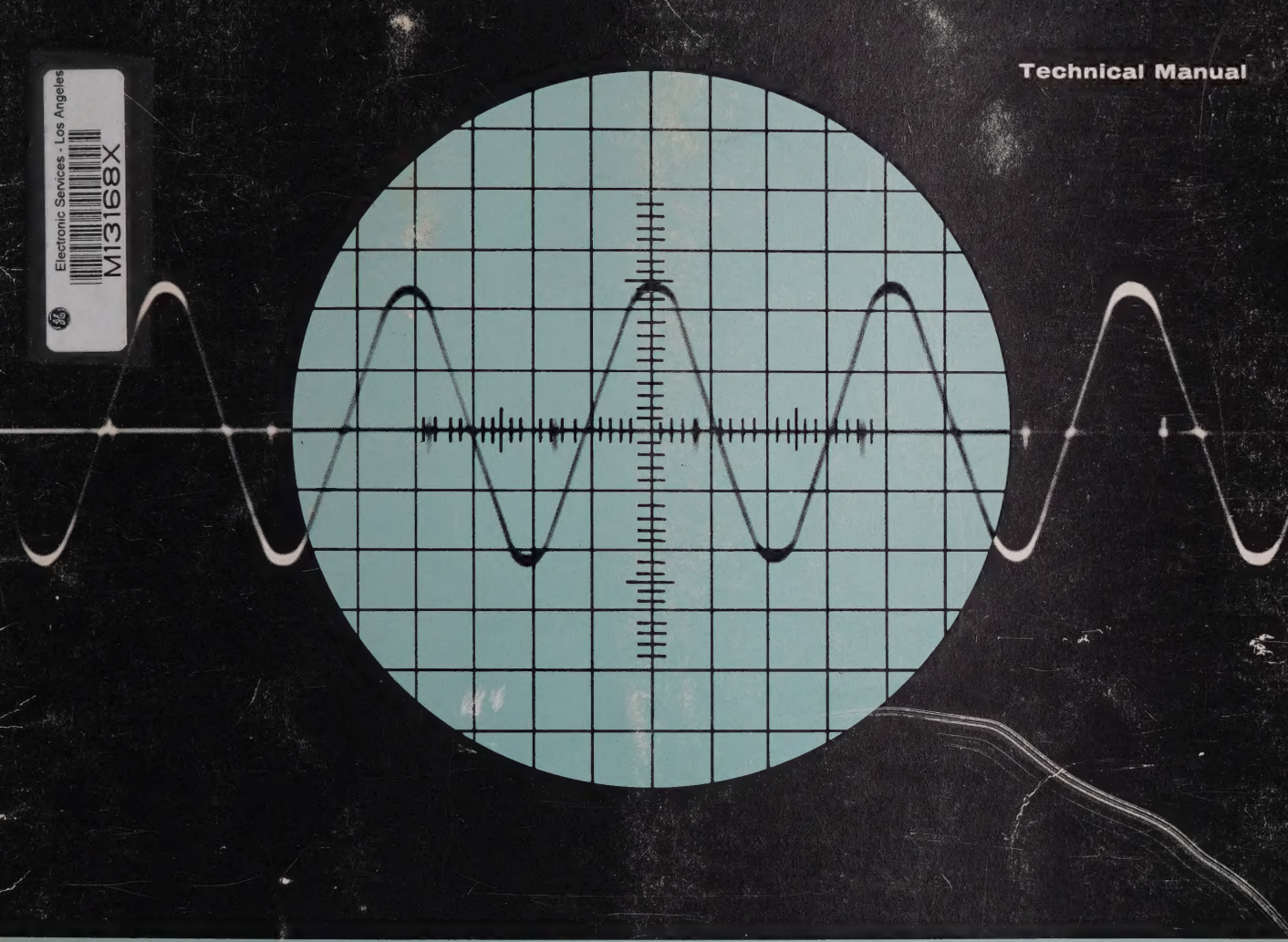
Technical Manual



GENERAL ELECTRIC
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VIDEO SWEEP GENERATOR

MODEL 1015

JERROLD ELECTRONICS CORPORATION
INDUSTRIAL PRODUCTS DIVISION

ANALYTICAL LABORATORY INSTRUMENTS FOR QUANTITATIVE MEASUREMENTS

TEMPORARY INSTRUCTION MANUAL

1P-TM-005 435-382

JERROLD

VIDEO SWEEP GENERATOR

MODEL 1015

ALL DATA SUBJECT TO CHANGE WITHOUT NOTICE

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LIST OF SCHEMATIC DIAGRAMS
(Located in rear of manual)

Power Supply and Main Chassis
Buffer, Mixer, Marker Amplifier
Marker Oscillator
Wide Sweep Oscillator
Oscillator Coil Assembly
Rear Panel
Narrow Sweep Oscillator
Front Panel
Pyramid Generator and Sweep Driver
Mixer and Video Amplifier

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LIST OF SCHEMATIC DIAGRAMS
(located in rear of manual)

Time Delay and Main Gate
Buffer, Slicer, Marker Amplifier
Marker Generator
Sync Comp Generator
Oscillator Unit Assembly
Time Delay
Marker Comp Generator
Video Input
Pyramid Generator and Comp Lines
Mixer and Video Amplifier

SECTION I

INTRODUCTION

1-1 Scope

This temporary instruction manual contains sufficient information to install, operate, and partially-align Video Sweep Generator Jerrold Model 1015, Serial Numbers thru .

A printed manual, containing more complete sections, additional sections, and a complete parts list will be issued at a future date.

1-2 General Description

Jerrold's new Video Sweep Generator Model 1015 is a highly-stable instrument designed for accurate measurement of the response of crystal filters or similar networks over frequencies ranging from 1 kc to 15 mc.

Model 1015 permits a choice of any one of three types of output. The wide-band sweep output covers a range of frequencies from 1 kc to 15 mc with sweep widths from 0 to 15 mc. The narrow-band sweep output provides sweep widths from 0 to ± 200 kc with center frequencies ranging from 1 kc to 15 mc. Sweep widths are continuously-variable for wide or narrow-sweep outputs. The continuous-wave output produces any single frequency between 1 kc and 15 mc. Frequency ranges are continuously-variable for each type of output.

Sweeping may be manual or automatic with sweep repetition rates continuously-variable from one sweep per 2-$\frac{1}{2}$ minutes to 60 sweeps per second over four switchable ranges.

A built-in marker generator provides a birdie marker at the frequency selected by the logging control when the instrument is operated in the wide-band mode. In addition, means are provided for connecting two external marker generators to the instrument. A marker amplifier circuit provides amplification for not only the internally-generated marker, but also for external markers fed to the unit.

A built-in coaxial switch permits using the MBC (measurement-by-comparison) technique for fast production line tests.

The instrument also features a calibrated output meter, a calibrated frequency scale, and a well-regulated power supply.

All controls, adjustments, and connections are clearly-marked and readily-accessible.

1-3 Controls, Fittings, and Adjustments Chart

This chart provides a complete functional description of the controls and adjustments on Model 1015.

CONTROLS, FITTINS, AND ADJUSTMENTS CHART

FRONT PANEL CONTROLS AND INDICATORS

NAME OF CONTROL	SCHEM DES	TYPE	CONTROL POSITIONS	CONTROL FUNCTIONS
SWEEP FUNCTION	S4	3-pos. switch		Selects type of output
			NARROW	Provides narrow-sweep (0 to ± 200 kc) type of output.
			WIDE	Provides wide-sweep (0 to 15 mc) type of output.
			CW	Provides continuous-wave type of output i.e. a single frequency.
SWEEP WIDTH	R4	Pot.	ccw to cw	Controls sweep width in eith NARROW or WIDE position of SWEEP FUNCTION switch NARROW-Continuously variable from 0 (unswept) in ccw position to ± 200 kc in cw position. WIDE-Continuously variable from 0 (unswept) in ccw position to 15 mc in cw position. Vernier dial reads from 0 to 1000 for accurate logging reference in either NARROW or WIDE position of SWEEP FUNCTION switch.
WIDE SWEEP	R3	Pot.	ccw to cw	Functions only in WIDE position of SWEEP FUNCTION switch to determine starting frequency of band of frequencies to be swept. Vernier dial reads from 0 to 1000 for accurate logging reference in WIDE position of SWEEP FUNCTION switch.
SWEEP RATE SW/MIN-SW/SEC	S1	4-pos. switch		Selects range of sweep rate
			.4-4	Provides from .4 to 4 sweeps per minute
			4-40	Provides from 4 to 40 sweeps per minute
			.6-6	Provides from .6 to 6 sweeps per second
			6-60	Provides from 6 to 60 sweeps per second
FINE	R1	Pot.	ccw to cw	Determines rate of sweep within limits determined by position of SW/MIN-SW/SEC switch.
			ccw	Minimum rate
			cw	Maximum rate
COAX SWITCHER	S2	3-pos switch		Selects the function of the coaxial switcher.
			REF	Permits steady observation of reference wave-form.
			TEST	Permits steady observation of test wave-form.

NAME OF CONTROL	SCHEM DES	TYPE	CONTROL POSITIONS	CONTROL FUNCTIONS
LOWER SCALE				Reads from 0 to 500 to be used in conjunction with inset dial to provide vernier logging for accurate re-setability.
LOGGING CONTROL (unmarked large knob beneath scales display panel)	C351 AB	dual cap.	ccw to cw	Controls movement of indicator across scales. Used to set center-frequency of sweep when SWEEP FUNCTION switch is in NARROW or CW position. Used to set frequency at which internally-generated marker appears when SWEEP FUNCTION switch is in WIDE position.
			ccw	Indicator will be to the left of the 0 point on MEGACYCLES (upper) scale.
			cw	Indicator will be to the right of the 15 point on MEGACYCLES scale.
		PYRAMID GENERATOR and SWEEP DRIVER CHASSIS		
PYR REF	R207	Pot.	ccw to cw	Used to set pyramid negative excursion to zero volts.
PYR AMPL	R202	Pot.	ccw to cw	Used to set amplitude of pyramid positive excursion to + 40 volts.
PYR SYM	R217	Pot.	ccw to cw	Used to adjust pyramid wave-form to be symmetrical for both rise and fall (trace and retrace).
80 V ADJ	R233	Pot.	ccw to cw	Used to adjust zero sweep condition of wide sweepdriver.
C F RANGE	R236	Pot.	ccw to cw	Used to limit range of WIDE SWEEP CENT FREQ control.
W S RANGE	R231	Pot.	ccw to cw	Used to limit range of SWEEP WIDTH control.
N S BAL	R226	Pot.	ccw to cw	Used to balance pyramid excursions above and below zero level when SWEEP FUNCTION switch is in NARROW position.
		MIXER and VIDEO AMPLIFIER CHASSIS		
METER CAL	R457	Pot.	ccw to cw	Used to calibrate output meter to + 20db.
MIXER BIAS	R416	Pot.	ccw to cw	Factory-adjusted to set bias of mixer stage for harmonic suppression.
MIXER DRIVE	R404	Pot.	ccw to cw	Factory-adjusted to control signal amplitude to the mixer for harmonic suppression.

NAME OF CONTROL	SCHEM DES	TYPE	CONTROL POSITIONS	CONTROL FUNCTIONS
MIXER BAL	R412	Pot.	ccw to cw	Factory-adjusted to balance mixer stage to suppress harmonics.
		OSCILLATOR COIL ASSEMBLY CHASSIS		
55 MC MARKER	C354	Cap.		Used to adjust marker oscillator frequency to 55 mc (0 on MEGACYCLE scale).
40 MC MARKER	L323	slug		Used to calibrate marker at 40 mc (15 on MEGACYCLE scale).
WS 55 MC	C346	Cap.		Used to adjust wide sweep oscillator to 55 mc.
N S 55 MC	C340	Cap.		Used to adjust narrow sweep oscillator to 55 mc.
		MAIN CHASSIS (REAR)		
200 V ADJ	R121	Pot.	ccw to cw	Used to adjust output of voltage regulator to + 200 volts.
RIPPLE BAL	R108	Pot.	ccw to cw	Used to adjust + 200 v supply for minimum ripple content.
MAN SW RANGE	R131	Pot.	ccw to cw	Used to adjust MANUAL SWEEP control range to 40 volts.

All fittings on the rear apron and rear of the main chassis are clearly marked to designate their particular function.

SECTION II

SPECIFICATIONS

2-1 Specification Chart

SPECIFICATIONS

TYPES OF OUTPUT	WIDE (wide-band sweep), NARROW (narrow-band sweep), or CW (continuous wave) as selected by position of SWEEP FUNCTION switch.
USABLE FREQUENCY RANGE	Continuously variable from 1 kc to 15 mc for any type of output.
SWEEP WIDTH	
Wide-band output	Continuously variable from 0 to 15 mc. Sweep starts at any selected frequency from 1 kc to 15 mc.
Narrow-band output	Continuously variable from 0 to + 200 kc above and below any selected center frequency from 1 kc to 15 mc.
FLATNESS	0.15 db max. variation p-p from 10 kc to 15 mc.
SWEPT-FREQUENCY LINEARITY	
Wide-band output	Quasi - logarithmic
Narrow-band output	Linear
RESIDUAL FM	
Narrow-band and continuous wave outputs	10 cps p-p
Wide-band output	700 cps p-p
SOURCE IMPEDANCE BACK-MATCH	VSWR 1.07:1 for 50 or 75-ohm impedance
OUTPUT VOLTAGE LEVEL	+20dbm into 50 or 75-ohm load
OUTPUT METER	Calibrated at 14 and 20 dbm. Monitors output level.
HARMONICS	40 db min. below fundamental output
POWER SOURCE	115/230v ac, 50/60 cps
DIMENSIONS	
Bench-mount (with cabinet)	14" H, 22" W, 19-3/4" D
Rack-mount (without cabinet)	10-1/2" H, 19" W, 18" D (behind panel)
WEIGHT	75lbs (with cabinet)

SECTION III

INSTALLATION

3-1 General

Model 1015 is completely calibrated, thoroughly checked out, and packed with great care to insure that the delivered instrument will be in perfect operating condition. The simple procedures outlined in this section provide the assurance that the instrument has reached its destination in the same condition in which it was shipped from the factory.

3-2 Unpacking Instrument

1. Slit tape used to close the outer carton being careful not to damage the carton.
2. Open outer carton, remove top layer of packing material, and remove inner carton.
3. Open inner carton being careful not to damage the carton.
4. Remove corner posts and remove unit from inner carton.
5. Inspect unit for any obvious damage in shipment and check contents of package against packing slip.
6. Replace corner posts in inner carton, close carton, and place inside outer carton. Replace packing material, close outer carton, and store in a safe place for possible re-use.

3-3 Repacking Instrument

Repack the instrument in the original carton, if possible, by simply reversing the unpacking instructions. If the original packing materials are not available, pack the instrument in a strong container and be sure that it is well-surrounded with sufficient shock-absorbing material.

3-4 Initial Check

The procedures in this paragraph are based on the assumption that only a slight touch-up may be necessary to insure that Model 1015 is in perfect working condition.

It is assumed that the pyramidal sweep is properly referenced and is of the proper amplitude and symmetry, since a proper pyramid structure is the basis for the calibration of the sweeps.

3-4.1 Step-by-step Procedure

1. Read carefully SECTION I of this manual (with particular) attention to the CONTROLS, ADJUSTMENTS AND CONNECTIONS CHART) before proceeding with this check.
2. Place instrument on bench in any location which permits a free flow of air around the instrument.
3. Plug Model 1015 into proper ac power source, turn POWER switch to ON position, and allow 1/2 hour warm-up time.
4. Set controls on front panel of 1015 according to chart.

FRONT PANEL CONTROL POSITIONS FOR INITIAL CHECK

NAME OF CONTROL	SETTING
WIDE SWEEP CENTER FREQ	0
SWEEP FUNCTION	CW
SWEEP WIDTH	0
SW/MIN-SW/SEC	6-60
FINE	mid-position
PYR SWEEP-MANUAL	PYR SWEEP
ALC	ALC ON
MARKER GAIN	ccw
COAX SWITCHER	REF
MANUAL SWEEP	NA*
Logging Control	full ccw (indicator extreme left)

NA* = Not applicable

5. Connect positive lead of VTVM to pin #1 of test socket on 1015 and connect negative lead of VTVM to pin #5 of test socket.
   Voltage should read somewhere between 76 and 84 volts.

   NOTE: The deviation allowed in this reading will compensate for any difference in VTVM. If the reading is not within these limits, it will be necessary to perform the complete pyramid alignment procedure for the instrument as given in SECTION VI of this manual.

6. Interconnect equipment
   a. Connect VIDEO OUTPUT fitting on 1015 to RF INPUT fitting on an rf detector Jerrold Model D-86 (or equivalent).
   b. Connect EXT DET INPUT fitting on 1015 to SCOPE fitting on D-86.
   c. Connect SCOPE VERTICAL fitting on 1015 to vertical dc input on scope.
   d. Connect SCOPE HORIZ fitting on 1015 to horizontal input on scope.
7. Adjust scope horizontal sensitivity for full scale reading.
8. Adjust scope vertical sensitivity for 1 volt per centimeter.
9. Adjust OUTPUT LEVEL control on 1015 to obtain 20 db output as indicated by output meter.
10. Turn logging control on 1015 slightly cw to obtain a zero beat on the scope display.
    The inset dial above the bottom scale should read 10 + 1 and the indicator should be at 0 position on MEGACYCLES (top) scale.
    If zero beat cannot be obtained with inset dial reading 10 $\pm$ 1, remove top cover of 1015 and adjust NS55MC trimmer to produce zero beat at a dial reading of 10.
    If it is not possible to do this, complete pyramid alignment according to procedure in SECTION VI will be necessary.

11. Turn SWEEP FUNCTION switch to NARROW position.
Zero beat should be observed approximately in center of scope display.

12. Rotate SWEEP WIDTH control to full cw and return to full ccw.
Zero beat should stay approximately in center of scope display.

13. Turn SWEEP FUNCTION switch to WIDE position.
Zero beat should appear somewhere on scope display.
If zero beat does not appear, change settings of both SWEEP WIDTH and WIDE SWEEP CENTER FREQ vernier controls to somewhere between 0 and 2 divisions (as read on outer dial) to obtain display.
If this is not possible, return both dials to 0 and adjust WS55MC trimmer to produce a zero beat.
If this is not possible, complete pyramid alignment according to procedure in SECTION VI will be necessary.

14. Turn SWEEP WIDTH control full cw.
Full sweep should be displayed on scope with zero beat at extreme left of display.
If zero beat is not at extreme left, adjust WIDE SWEEP CENTER FREQ control to properly position beat.

15. Turn MARKER GAIN full cw and rotate logging control until the indicator is at 15 MC on the MEGACYCLES scale.
The inset dial should read 490 and a marker should appear at the extreme right of the scope display.
If marker does not appear or appears in the wrong position, complete pyramid alignment according to procedure in SECTION VI is necessary.

16. Rotate MARKER GAIN control ccw.
The amplitude of the marker should decrease.

17. Place PYR SWEEP-MANUAL switch in MANUAL position.
A spot should appear on the scope display.

18. Rotate MANUAL SWEEP control through its full range.
Spot should have same excursion as sweep.
If excursion is greater or less than that of the sweep, adjust MANUAL RANGE potentiometer to obtain proper excursion.
This completes the initial check of Model 1015.

SECTION IV

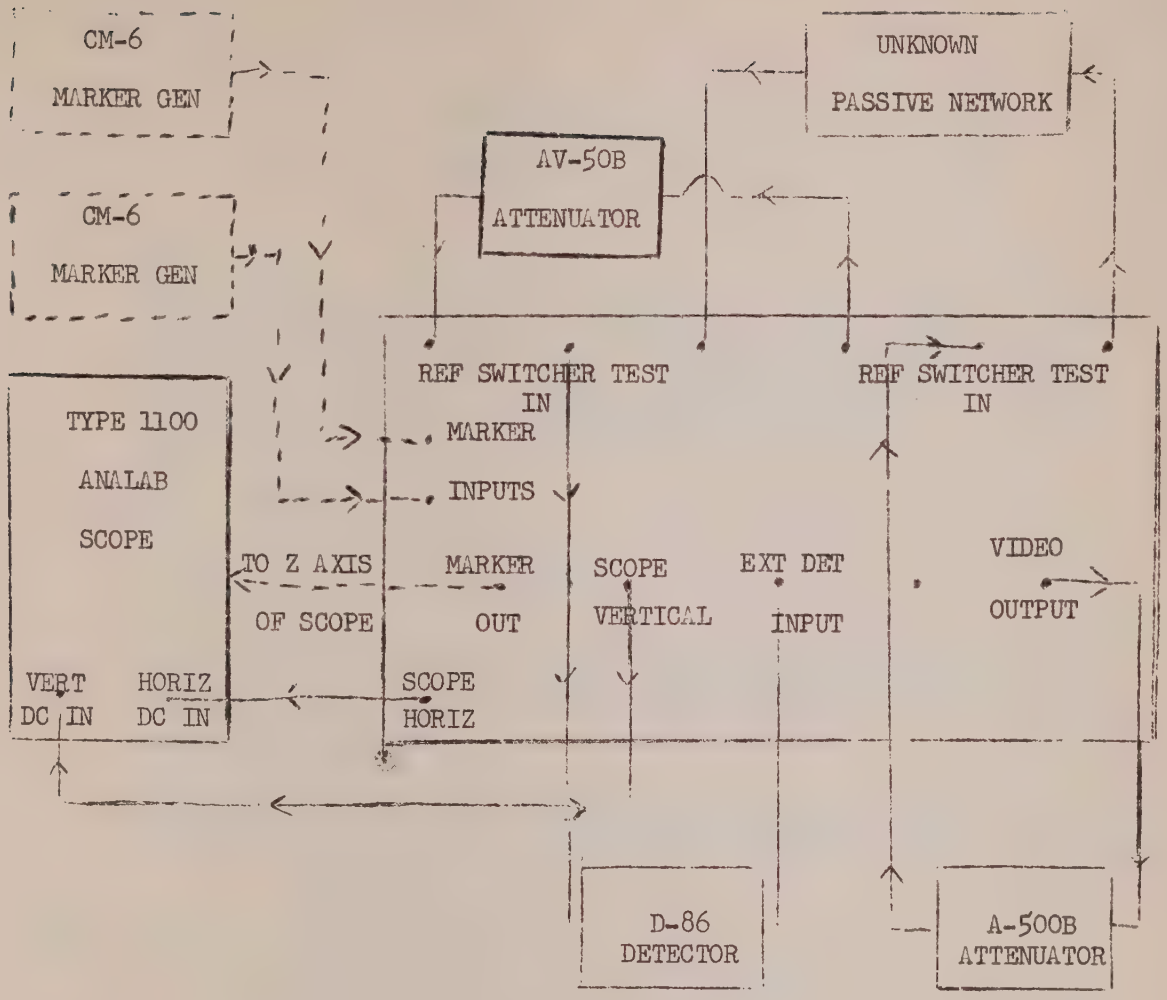
APPLICATIONS

To be included in permanent manual. See block diagram on next page for typical test set-ups.

SECTION V

CIRCUIT DESCRIPTION

To be included in permanent manual.



----- * Optional connections

SET-UP FOR MEASURING RESPONSE OF PASSIVE NETWORK

To measure unknown gain of an amplifier, use the test set-up above with these changes:

1. Remove AV-50B attenuator and inter-connect the two REF fittings.
2. Remove unknown passive network.
3. Connect one TEST fitting to one fitting on AV-50B and connect other fitting on AV-50B to the amplifier input.
4. Connect amplifier output to the other TEST fitting.

SECTION VI

MAINTENANCE

6-1 General

Model 1015 is designed for long periods of service with a minimum of maintenance. The maintenance section in this temporary manual is not as complete as it will be in the printed version. The printed version will contain a complete parts list, together with such information as is presently unobtainable due to lack of field information on the first units of this model.

6-2 Tube Changing

Most of the tubes in Model 1015 can be replaced without changing the performance of the instrument.

The three 12AT7 tubes in the sweep generator unit determine the characteristics of the pyramidal sweep. Whenever one of these tubes is changed it will be necessary to re-align the pyramidal sweep for the unit.

6-3 Pyramid Alignment Procedure

CAUTION: This procedure should be attempted only after it has been definitely established that readjustments are necessary.

6-3.1 Step-by-Step Procedure

1. Plug Model 1015 into a proper ac source and allow 1/2 hour warm-up.
2. Connect positive lead of VTVM to pin #7 of test socket on 1015 and the negative lead to the chassis.

   Meter should read 200v. If not, adjust 200V ADJ potentiometer for correct reading. Disconnect VTVM.

3. Connect ac-coupled scope between pin #7 of test socket and ground, and set scope sensitivity to 5 mv per cm.

   Observe ripple on scope and adjust RIPPLE BAL potentiometer to obtain minimum ripple. Disconnect scope.

4. Connect SCOPE HORIZ fitting on 1015 to horizontal dc input of scope and set scope horizontal sensitivity to 10 volts dc per cm. Then place PYR SWEEP-MANUAL switch on 1015 in MANUAL position and turn MANUAL SWEEP control full ccw.

   A dot will appear on scope display. Position dot at a reference point on display screen.

5. Rotate MANUAL SWEEP to full cw position and return to full ccw.

There should be a 40-volt excursion of the dot.

If range is incorrect, adjust MANUAL RANGE potentiometer to obtain proper excursion.

6. Place SW/MIN-SW switch in 6-60 position and FINE control at mid-point.

Observed sweep length should be 40 volts. If necessary, adjust PYR AMPL potentiometer to obtain exact sweep length.
NOTE: If FINE control is moved to full cw, the sweep length will be slightly more than 40 volts. Return control to mid-position.

7. Place PYR SWEEP-MANUAL switch in PYR SWEEP position.

Observe sweep on display screen. If position of sweep does not coincide with a reference established by dot extreme left position, adjust PYR REF potentiometer until it does.

8. Remove connection to horizontal dc input of the scope and connect it to the dc vertical input of scope.

Observe pyramid for symmetry. If necessary, adjust PYR SYM potentiometer to obtain proper symmetry.

9. Re-check pyramid base for proper reference level. If necessary, re-adjust PYR REF potentiometer.

10. Set WIDE SWEEP CENTER FREQ and SWEEP WIDTH controls to 0 and then connect the positive lead of VTVM to pin #1 of test socket on 1015 and the negative lead to pin #5.

Meter should read 80 volts. If not, adjust 80V ADJ potentiometer to obtain reading. Disconnect VTVM and scope from 1015.

REPLACEMENT PARTS

MODEL 1015 VIDEO SWEEP GENERATOR

"C" SERIES

FRONT PANEL

SCHEMATIC DESIGNATION	DESCRIPTION	JERROLD PART NUMBER
	CAPACITORS	
C1	Bathtub 10 mf 150 v	125-047
C2	1 mf 200 v	125-019
C3, 6	.1 mf 200 v	125-002
C4	.01 mf 400 v	125-013
C5	.01 pf 600 v	124-031
	LAMPS	
DS1, 2	Pilot Light	102-513
	METER	
M1	Meter	171-218
	RECEPTACLES	
J1, 2, 3, 4	U G 657/U (BNC)	188-103
	RESISTORS	
R1	Var. 5 meg 2 W	118-054
R2	Var. 10 k 2 W ±10%	118-044
R3,4	Helipot Model "A" 10T, 100k Lin. ±.25%	118-099
R5	100k 1/2W ±5%	112-611
R6	Var. 25k 2W	118-093
R7	220k 1/2W ±5%	112-653
R8	Var w/push-pull sw.	A118-114
R9	2.2 meg 1/2W ±5%	112-779
R10, 11	56k 1/2W ±5%	112-581
	SWITCHES	
S1	2 pole 5 pos	161-121
S2	2 pole 3 pos	161-103
S3	Joggle spst	162-001
S4	Coaxial switch assy.	822-050
S5	Toggle spdt	162-007

SCHEMATIC DESIGNATION	DESCRIPTION	JERROLD PART NUMBER
	FINAL ASSEMBLY	
	TUBES	
V101,102	6DQ6B	131-350
V103	6AU6	131-308
V104, 105	0A2	132-100
V106	5651	131-355
	MAIN CHASSIS ASSEMBLY	
	CAPACITORS	
C101,102,103,104	40 mf 450 v	127-023
C105	.1 mf 400 v	125-003
C106,107	.1 mf 200 v	125-002
C108	4 mf 450 v	127-030
C109	.5 mf 200 v	125-050
C110	.005 mf 600 v	124-029
	FUSE	
F101	Slo-blo 3-amp	101-357
	RECEPTACLES	
J104,105,106,107	UG 657/U (BNC)	188-103
	RECTIFIERS	
CR101,102,103,104	750 ma @1000 piv CER73 ST	137-713 (10)
	RESISTORS	
R105	100 20 w	113-049
R106	3 k 20 w	113-056
R107	120 k 1/2W ±5%	112-623
R108	Pot. 10k, 2W ±10%	118-026
R109,111	47 2 W ±10%	113-062
R110,112	100 1 W ±10%	112-237
R113	220K 1/2W ±10%	112-656
R114,115,116	1.1 k 1/2W ±5%	112-368
R117,120	100k 1/2W ±5%	112-611
R118	27 k 1/2W ±5%	112-539
R119	12 k 1/2W ±5%	112-497
R121	Pot 25k 2W ±10%	118-027
R122	22 k 1/2W ±5%	112-527
R124	10 k 1/2W ±5%	112-485
R125,126	3 k 10 W	113-016

SCHEMATIC DESIGNATION	DESCRIPTION	JERROLD PART NUMBER
R127,128,129	33 1/2W ±5%	112-170
R130	62k 1/2W ±5%	112-587
R131	Pot 50k 2W	118-024
R132,133	8.2k 1W ±5%	112-477

TRANSFORMER

T101	Power	C141-200

WAVE FORM GENERATOR

RESISTORS

R201	91k 1/2W ±5%	112-608
R202,207	Var 250k	118-100
R203,212	1 meg 1/2W ±5%	112-737
R204,208	300k 1/2W ±5%	112-914
R205	3.6 meg 1/2W ±5%	112-809
R206,222,252	1 k 1/2W ±5%	112-359
R209,211,250	68k 1/2W ±5%	112-590
R210,214	511k 1/2W ±1%	115-104
R213,215,219	150k 1/2W ±5%	112-632
R216	470k 1/2W ±10%	112-698
R217,236	Var 100k 2W	118-022
R218	560k 1/2W ±5%	112-707
R220,228	100k 1/2W ±5%	112-611
R221	200k 1/2W ±5%	112-650
R223	510k 1/2W ±5%	112-704
R224	2.7meg 1/2W ±5%	112-791
R225	10 meg 1/2W ±10%	112-866
R226	Var 500k 2W	118-030
R227	620k 1/2W ±5%	112-713
R229	22 k 1/2W ±5%	112-527
R230	62 k 1/2W ±5%	112-587
R231	Var 25 k 2W ±10%	118-027
R232,235,243,244	1 meg 1/2W ±1%	115-105
R233	Var 1 meg 2W	118-050
R234	4.22 meg 1/2W ±1%	115-107
R237	383 k 1/2W ±1%	115-103
R238,239	6.8k 1/2W ±5%	112-464
R240	39 k 1/2W ±5%	112-560
R241	2.61 meg 1/2W ±1%	115-152
R242	30 k 1/2W ±5%	112-545
R245,251	10 k 1/2W ±5%	112-485
R246	47 1/2W ±5%	112-317
R247	18k 2 W ±5%	112-520
R248	1.5meg 1/2W ±5%	112-758
R249	180k 1/2W ±5%	112-644
R253	130k 1/2W ±5%	112-629

SCHEMATIC DESIGNATION	DESCRIPTION	JERROLD PART NUMBER
	TUBES	
V201,202,204,205	12AT7	131-400
V203	6U8	131-320
	WIDE SWP OSC, MARKER OSC, NARROW SWP OSC, OSC COIL BOX	
C301,304,308,309 312,316,317,321,322 323,329,330,332,334	Feed-thru 1000 pf	129-200
C302,305,310,313 318,319	510 pf 500 v silver mica	126-051
C303,311,320	Stand-off 1000 pf	129-199
C306,307,314,315 331,333,335,336	1000 pf 500-600v 6MV	123-115
C324	Trimmer .7-3 pf 350v	128-515
C325,326,328	.01 mf 600v	124-031
C327	56 pf silver mica	126-064
C337,343	Feed thru 1000 pf ±20%	129-108
C338	10 pf ±.1pf 500v 220N	121-077
C339	7.5pf ±.25pf 600v TCZ	121-041
C340,346,354	Trimmer HFT65A	B821-141
C341,342,347,348 355,356	68pf silver mica 500v 2%	126-062
C344	82pf ±2% 600v TCZ	121-031
C345	5.6pf ±.5pf 600v 750N	121-112
C349	Trimmer ceramic 8.50	128-501
C350	43pf ±2% 600v TCZ	121-023
C351	Var. Hammerlund Model Rotor & 4 plates	C128-211
C353	4.7 pf ±.5pf 600v 330N	121-206
C357	39pf ±2% 600v TCZ	121-022
C358	15pf ±2% 600v 330N	121-204
C359	3.3pf ±.25 pf 600v TCZ	121-006
C360,361,362	Varicap HC-7001 Hughes	128-212
	PLUGS	
P301,303,304,305,307,308	UG 88/U (BNC)	183-204

SCHEMATIC DESIGNATION	DESCRIPTION	JERROLD PART NUMBER
	RECEPTACLES	
J301,302,303,304,305,306 307,308,310	UG 657/U (BNC)	188-103
	RESISTORS	
R301,306,317,324,334	4.7k 1/2W ±5%	112-443
R302,303,307,308,310,313,314 315,318,319,322,325,326,339,340	10 1/2W ±5%	112-107
R304,305,311,312,320,321	10k 2W ±10%	112-490
R309,316,323	22k 1/2W ±5%	112-527
R327	47k 1/2W ±5%	112-569
R328	180 1/2W ±5%	112-266
R329,330	1k 1/2W ±5%	112-359
R331,338	560 1/2W ±5%	112-329
R332,333,336,337	3 1/2W ±5%	112-005
R335	620 1/2W ±5%	112-335
R341	50 1/2W ±1%	115-141
	TUBES	
V301,302,303	6922	131-602
V304	6EJ7	131-340
	MIXER AND VIDEO AMP	
	CAPACITORS	
C401	36pf ±2% 600v TCZ	121-021
C402	100pf ±2% 600v TCZ	121-033
C403	.51pf 10% QC Gimmick	122-037
C404,408,409,412,417, 420,435,436,437,438, 442,444,445,446	0.1mf 600v	124-031
C405	13pf ±.25pf 600v TCZ	121-043
C406,407	0.1mf 50v	124-059
C410,413	1.5pf ±.25pf 600v TCZ	121-049
C411	5.6pf ±.25pf 600v TCZ	121-044
C414,416	4.0mf 250v electrolytic	127-043
C415	Trimmer .7-3pf 350v	128-515
C418	Disc 1000pf GMV 500-600v	123-115

SCHEMATIC DESIGNATION	DESCRIPTION	JERROLD PART NUMBER
C419,423	0.25mf 200v metalized paper	125-008
C421,424,425	0.1mf 200v metalized paper	125-002
C426	7.5pf ±.25pf 600v TCZ	121-041
C427	Ceramic Trimmer 3-12 Erie NPO	128-520
C428	47pf ±2% 600v TCZ	121-024
C429	12mf 250v electrolytic	127-001
C430	Trimmer .7-10	B821-141
C431,432,434	.005mf 600v	124-029
C433	.5mf 200v metalized paper	125-022
C440	Feed thru 1000pf 102W AB #FA-5C	129-200
C441	Feed thru teflon Selectro #FT-SM-2 TUR-C2	129-226
C443	12mf 150v electrolytic	127-016
C447	5.1pf ±.25pf 600v TCZ	121-051
	PLUG	
P101	CJ #P-308-AB(261-11-08-030)	184-038
	RECEPTACLES	
J401,402,404,405 406,407,408,409	UG/657/U (BNC)	188-103
	RECTIFIERS	
CR401	IN 34 w/leads	139-100
CR402,403	K34 w/leads	139-102
CR404	IN 456 w/leads	139-166
	RESISTORS	
R401	470 1/2W ±5%	112-317
R402,449	10k 1/2W ±5%	112-485
R403	4.7k 1W ±10%	112-447
R404	Var. 10k 2W 10% Type AB CLU	118-206
R405	15k 2W ±10%	112-511
R406	6.8k 1W ±10%	112-469
R407,408	510 1/2W ±5%	112-326
R409,415,443	220k 1/2W ±5%	112-653
R410,414,434	270k 1/2W ±5%	112-665
R411,413	36k 1/2W ±5%	112-557
R412	Var 50k 2W Type AB CLU	118-024
R416	Var 500k 2W Lin Taper Type AB CLU	118-030
R417,418,428,432 441,442	10 1/2W ±5%	112-107

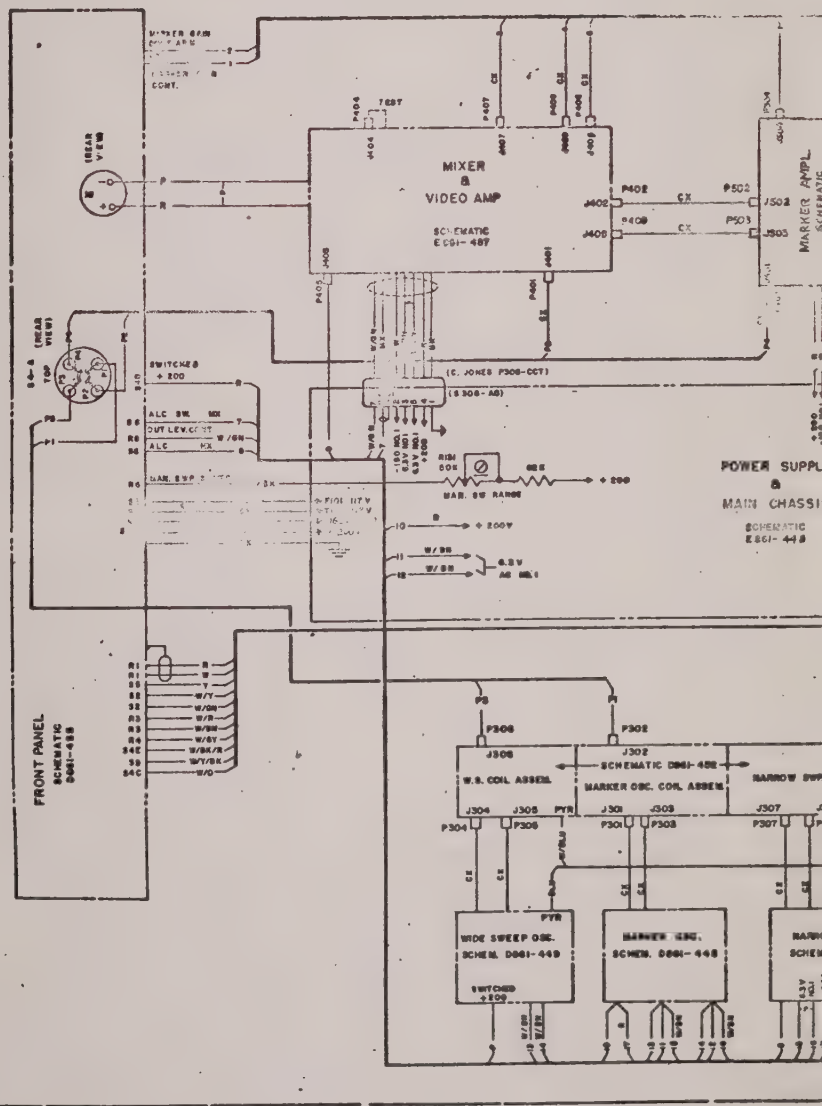
SCHEMATIC DESIGNATION	DESCRIPTION	JERROLD PART NUMBER
R419	51 1/2W ±5%	112-200
R420	3.6k 1/2W ±5%	112-431
R421,422	30k 1/2W ±5%	112-545
R423,424,431 466,467	1 k 1/2W ±5%	112-359
R425	2 k 1 W ±5%	112-399
R426	100 1/2W ±5%	112-233
R427,429	560k 1/2W ±5%	112-707
R430	330 1/2W ±5%	112-296
R433	120 1/2W ±5%	112-245
R435	150k 1/2W ±5%	112-632
R437,438	220 2 W ±10%	112-280
R439	180k 1/2W ±5%	112-644
R440	200 1/2W ±5%	112-272
R444	5.1k 1/2W ±5%	112-452
R445	150 2 W ±10%	112-259
R446	6.8k 1W ±10%	112-468
R447	560 1/2W ±5%	112-329
R448,453,464	100k 1/2W ±5%	112-611
R450 (75 ohm only)	75 1/2W ±1%	115-148
(50 ohm only)	50 1/2W ±1%	115-149
R451	1.5k 1/2W ±5%	112-380
R452,459	2k 1/2W ±5%	112-398
R457	Var 500 2W Type AB CLU	118-053
R458	240 1/2W ±5%	112-284
R460,463	200k 1/2W ±5%	112-650
R461	1.8k 1/2W ±5%	112-392
R462	2.2k 1/2W ±5%	112-401
R465	51k 1/2W ±5%	112-578
R468	4.7meg 1/2W ±10%	112-824
R472	11k 1/2W ±5%	112-494
R473	1 k 2 W ±10%	112-364
	TRANSFORMER	
T401	Iron Torroid	B144-070
	TUBES	
V401	6EJ7	131-340
V402,403	12BY7A	131-403
V404	6922	131-602
V405,406	6CW5	131-337
V407	6U8	131-320

SCHEMATIC DESIGNATION	DESCRIPTION	JERROLD PART NUMBER
	BUFFER MIXER AND MARKER AMP	
	CAPACITORS	
C501	50pf 60v 10% tub ceramic	123-122
C502	22pf ±2% 600v TCZ	121-015
C503,504,510,516	.02mf disc	124-034
C505,515	100pf 6P 100%	123-105
C506,514,517,518,519, 520,521,522,523,524	1 k pf AB #FA-5C-102W Feed thru	129-200
C507,513	47pf 10% AB #FA5C4701 Feed thru	129-202
C508,509	2k pf disc 1000v dc ±10%	124-050
C511	.01mf 200v molded paper	125-048
C512	1k pf 6P	123-115
	RECEPTACLES	
J501,502,503,504	BNC UG657/U	188-103
	RECTIFIERS	
CR501	IN 34 w/leads	139-100
	RESISTORS	
R501,507	51 1/2W 5%	112-200
R502	10 1/2W 5%	112-107
R503,505	10k 1/2W 5%	112-485
R504	150 1/2W 5%	112-254
R506,510	47k 1/2W 5%	112-569
R508,521	220k 1/2W 5%	112-653
R509,513,516,518	100k 1/2W 5%	112-611
R511,519	1 k 1/2W 5%	112-359
R512,520	1meg 1/2W 5%	112-737
R514	2.2k 1/2W 5%	112-401
R515	100 1/2W 5%	112-233
R517	820 1/2W 5%	112-350
R522	300k 1/2W 5%	112-671
R523	2meg 1/2W 5%	112-776
R524	8.2meg 1/2W 5%	112-854
	TUBES	
V501	6AU6	131-308
V502,503	6AN8	131-352

SCHEMATIC DESIGNATION	DESCRIPTION	JERROLD PART NUMBER
	REAR PANEL (50-OHM MODEL ONLY)	
	CAPACITORS	
C601	500pf ±10% GMV	123-233
C602,603,605,606	8.2pf 500v NPO	121-010
C604,607	1k pf disc 600v GMV	123-115
	CONNECTORS	
J406,409	UG88/U (BNC)	183-204
	JACKS	
J607,608	Bulkhead BNC UG909/U	185-106
	RECEPTACLES	
J601,602,603,604, 605,606,609,610,611	UG657/U (BNC)	188-103
	RESISTORS	
R601,602,603,604	50 1/2W ±1%	115-141
R607	100k 1/2W ±5%	112-611
R608	1 meg 1/2W ±5%	112-737
	SWITCHES	
S601,602,603,604, 605,606,607,608	Reed RCA RE2100	160-104 (8)

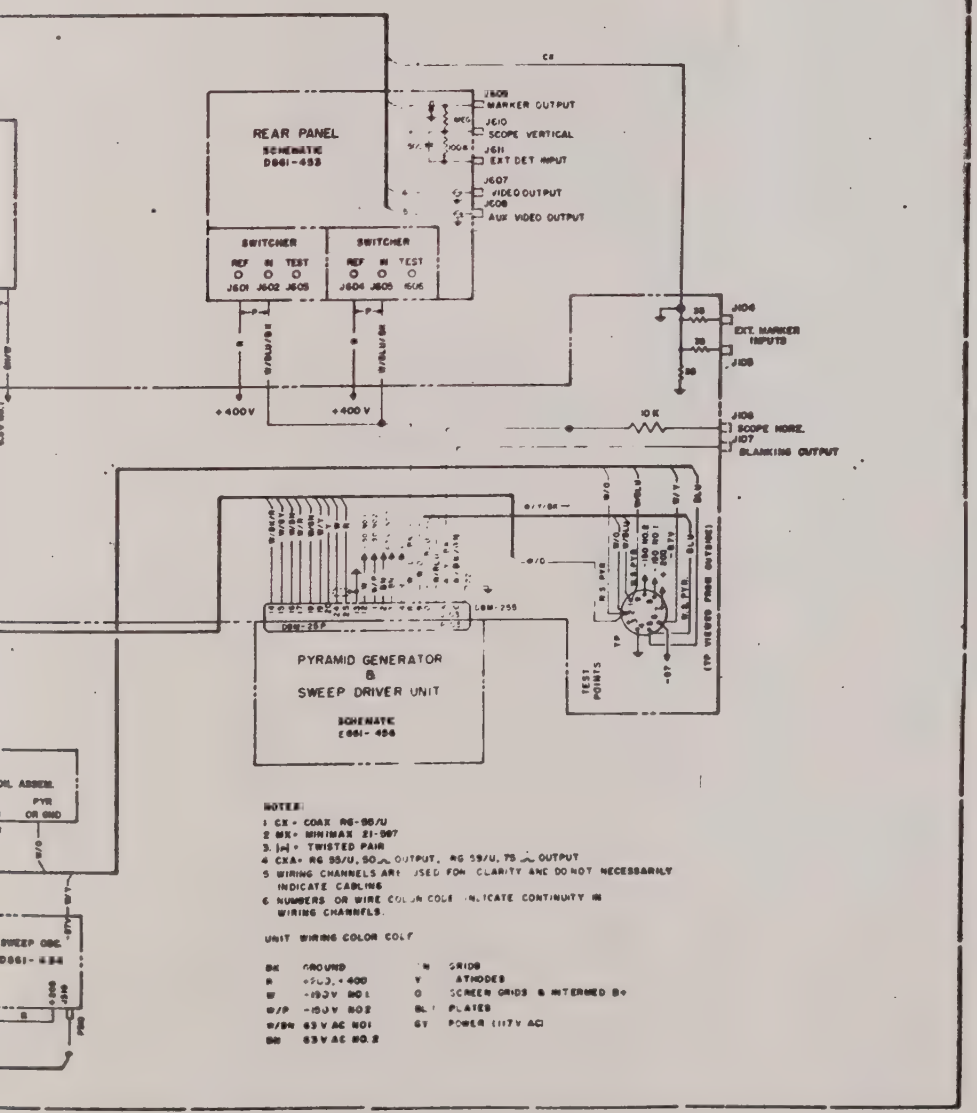
INTERCONNECTION

1015 SWEEP GENERA
SERIES A



DIAGRAM

TOR



NOTES:

1. CX = COAX RG-58/U
2. MX = MINIMAX 21-907
3. |w| = TWISTED PAIR
4. CXA = RG 59/U, 50Ω OUTPUT, RG 59/U, 75Ω OUTPUT
5. WIRING CHANNELS ARE USED FOR CLARITY AND DO NOT NECESSARILY INDICATE CABLING
6. NUMBERS OR WIRE COLOR CODE INDICATE CONTINUITY IN WIRING CHANNELS.

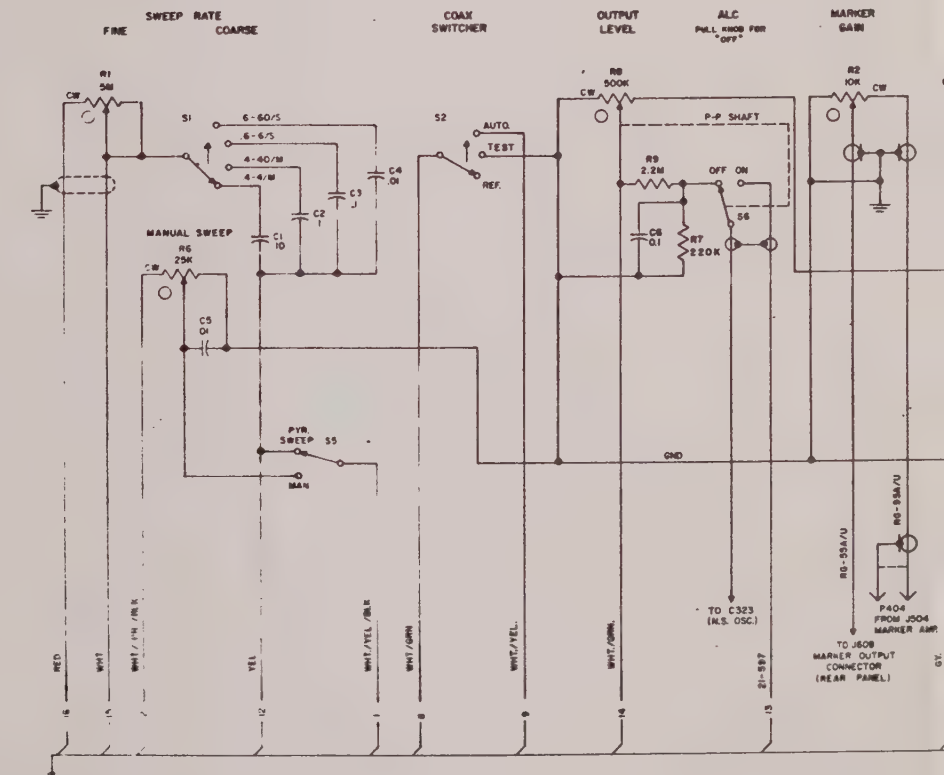
UNIT WIRING COLOR CODE

BK	GROUND	G	GRIDS
R	+150, +400	V	ANODES
W	-150 V NO.1	G	SCREEN GRIDS & INTERNAL B+
O/P	-150 V NO.2	BL	PLATES
O/BK	63 V AC NO.1	GY	POWER (117 V AC)
BK	63 V AC NO.2		

E862-050 0

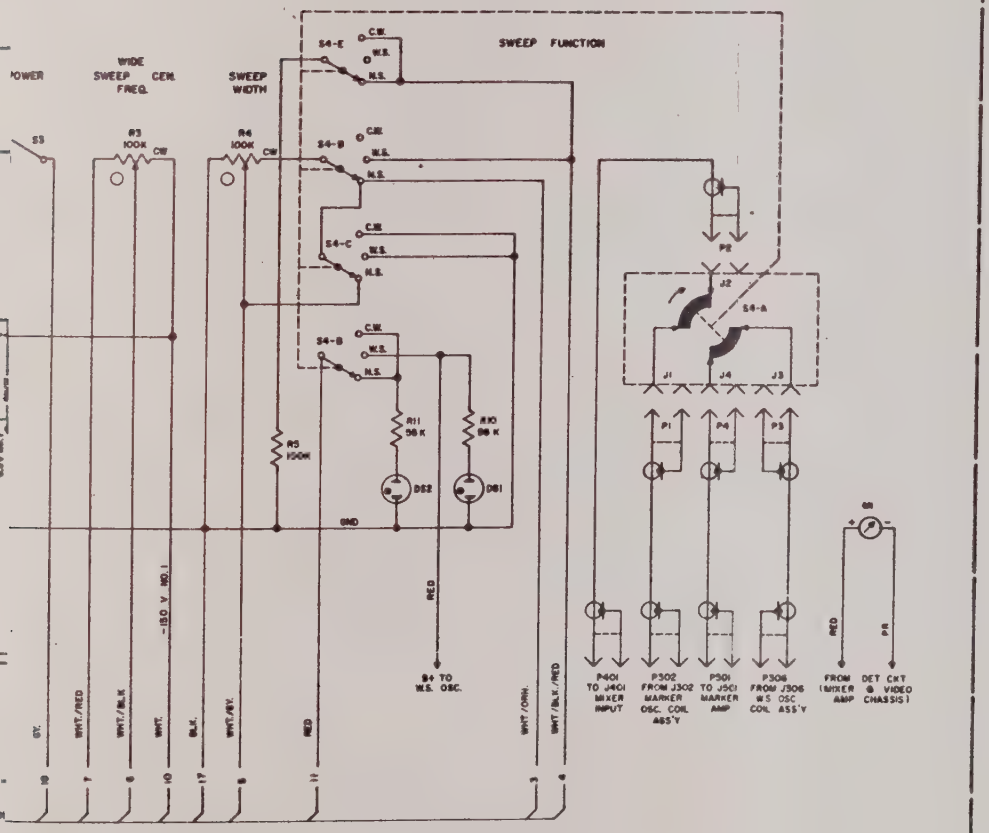
			LIST OF MATERIAL
UNLESS OTHERWISE SPECIFIED TOLERANCES			TITLE: INTERCONNECTION DIAGRAM 1015 SWEEP GENERATOR SERIES A
			SIZE: E862-050 SHEET 1 OF 1

SCHEMATIC
FRONT PANEL
MODEL 1015
SERIES E



E861-455-0

LAST USED
R11
C6
S6
D62



NOTES:

1. ALL RESISTOR VALUES IN OHMS, 1/2 WATT, UNLESS OTHERWISE SPECIFIED
2. ALL CAPACITOR VALUES IN MFD. UNLESS OTHERWISE SPECIFIED
3. ○ = KNOB CONTROL
   ⊘ = INT ADJ.
   ⊘ = EXT. ADJ.

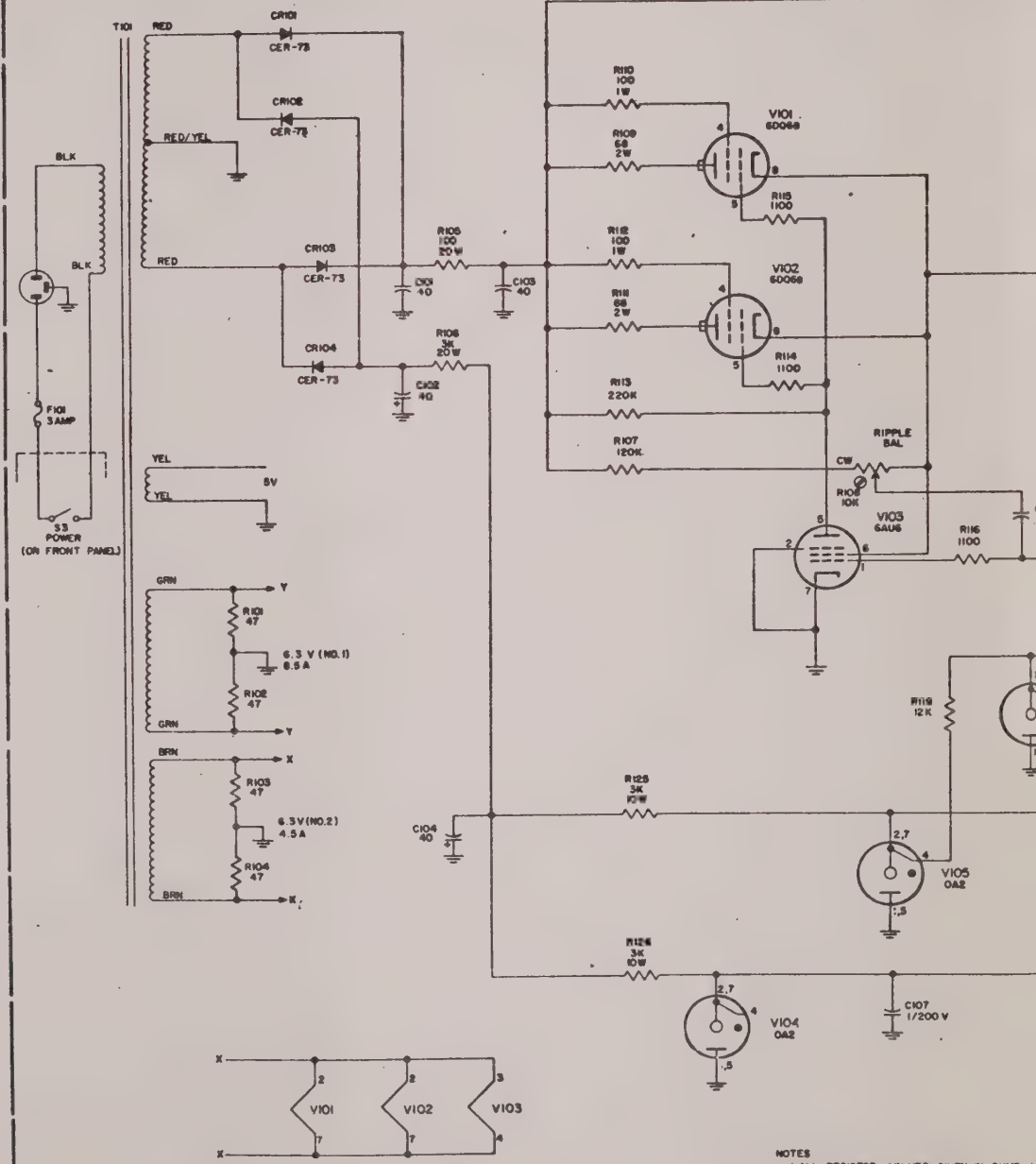
		SCHEMATIC FRONT PANEL MODEL 1095 SERIES A			
				0	E861-455

0 E861-455

SCHEMATIC

POWER SUPPLY & MAIN CHA

MODEL 1015



NOTES

1 ALL RESISTOR VALUES GIVEN IN OHMS,

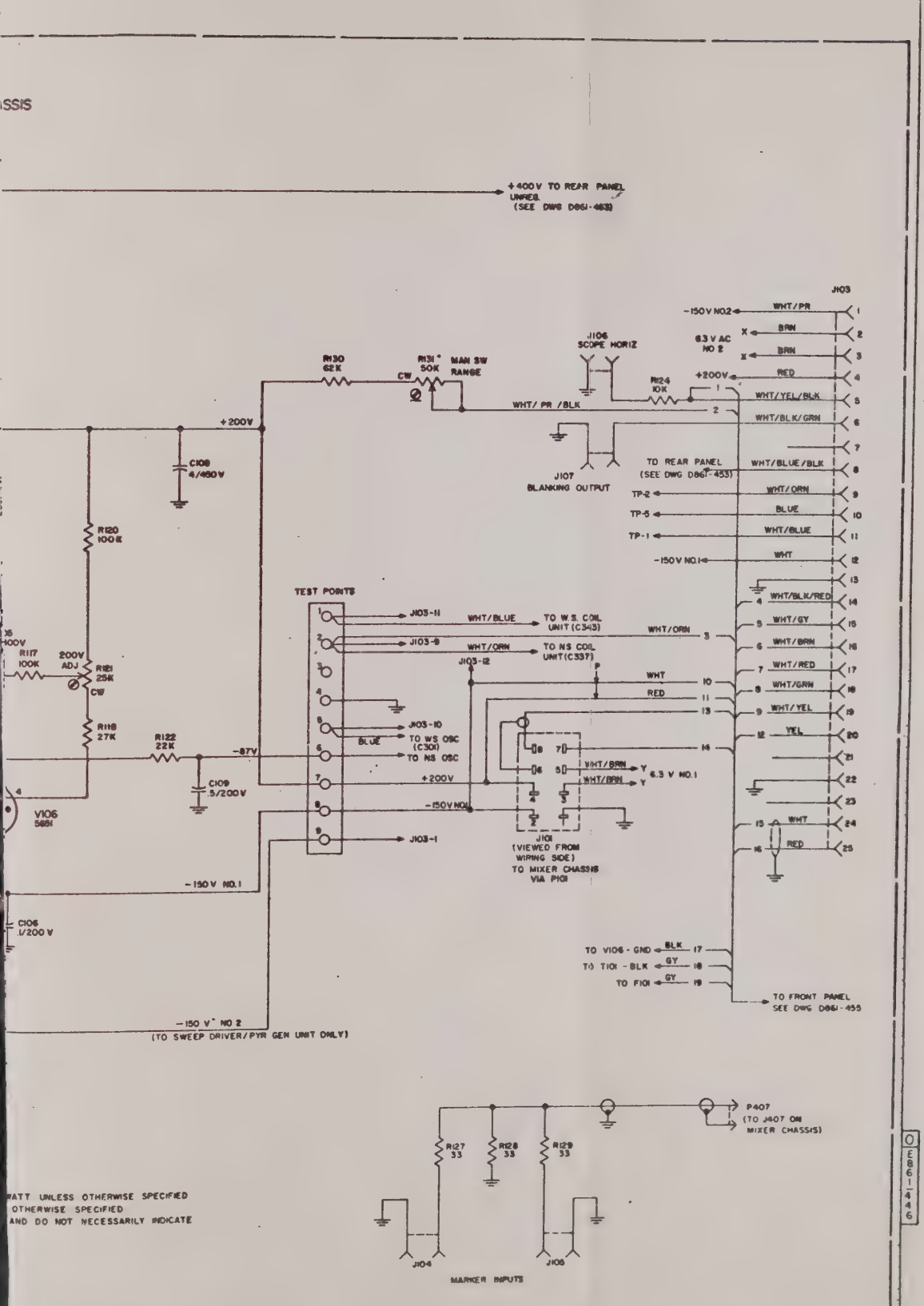
2 ALL CAPACITOR VALUES GIVEN IN PF UNL

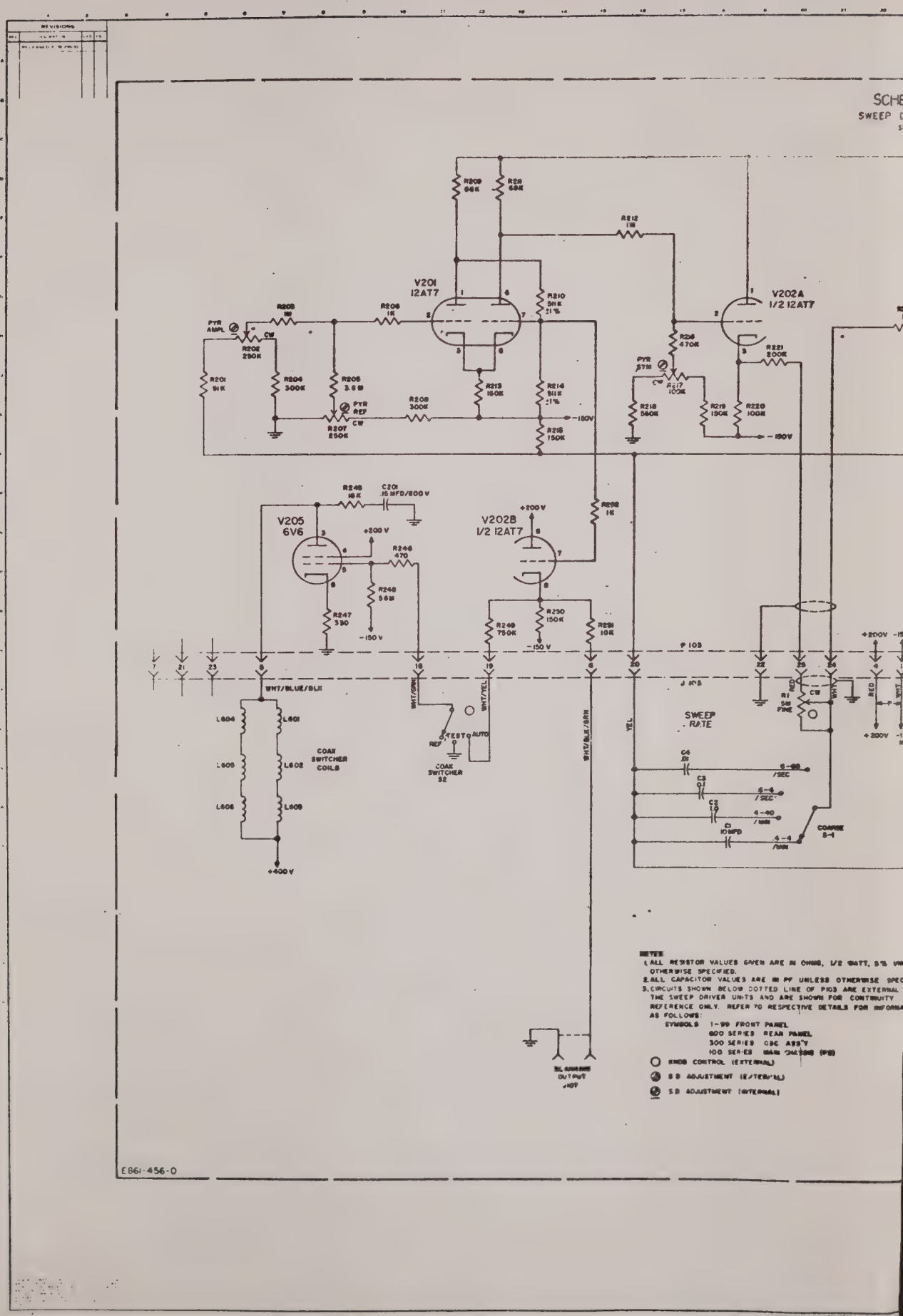
3 WIRING CHANNELS ARE USED FOR CLARI
CABLING NUMBERS INDICATE CONTINUITY

4 ⊘ = EXTERNAL ADJ

⊘ = INTERNAL ADJ

E861-446-0


+400 V TO REAR PANEL UNREG. (SEE DWG D86I-453)
J103
-150V NO.2
WHT/PR
6.3 V AC NO 2
BRN
BRN
+200V
RED
WHT/YEL/BLK
WHT/BLK/GRN
WHT/BLUE/BLK
WHT/ORN
BLUE
WHT/BLUE
-150V NO.1
WHT
WHT/BLK/RED
WHT/GY
WHT/BRN
WHT/RED
WHT/GRN
WHT/YEL
YEL
WHT
RED
J106 SCOPE HORIZ
R130 62K
R131* MAN SW RANGE 50K
CW
R124 10K
WHT/ PR /BLK
J107 BLANKING OUTPUT
TO REAR PANEL (SEE DWG D86I-453)
TP-2
TP-5
TP-1
+200V
C108 4/450V
R120 100K
R117 100K
200V ADJ
R121 25K
CW
R118 27K
R122 22K
-87V
C109 .5/200V
V106 5881
TEST POINTS
J103-11
WHT/BLUE
TO W.S. COIL UNIT (C343)
J103-9
WHT/ORN
TO NS COIL UNIT(C337)
J103-12
J103-10
BLUE
TO WS OSC (C301)
TO NS OSC
+200V
-150V NO.1
J103-1
J101 (VIEWED FROM WIRING SIDE) TO MIXER CHASSIS VIA P101
WHT/BRN
6.3 V NO.1
-150 V NO.1
C106 1/200 V
TO V106 - GND
TO T101 - BLK
TO F101
BLK
GY
GY
TO FRONT PANEL SEE DWG D86I-455
-150 V* NO 2
(TO SWEEP DRIVER/PYR GEN UNIT ONLY)
P407 (TO J407 ON MIXER CHASSIS)
R127 33
R128 33
R129 33
J104
J105
MARKER INPUTS
WATT UNLESS OTHERWISE SPECIFIED
OTHERWISE SPECIFIED
AND DO NOT NECESSARILY INDICATE
LIST OF MATERIAL
SCHEMATIC
POWER SUPPLY AND MAIN CHASSIS
MODEL 1015
SERIES A
J CABRY 2-13-63
E86I-446
SHEET 1 OF 1

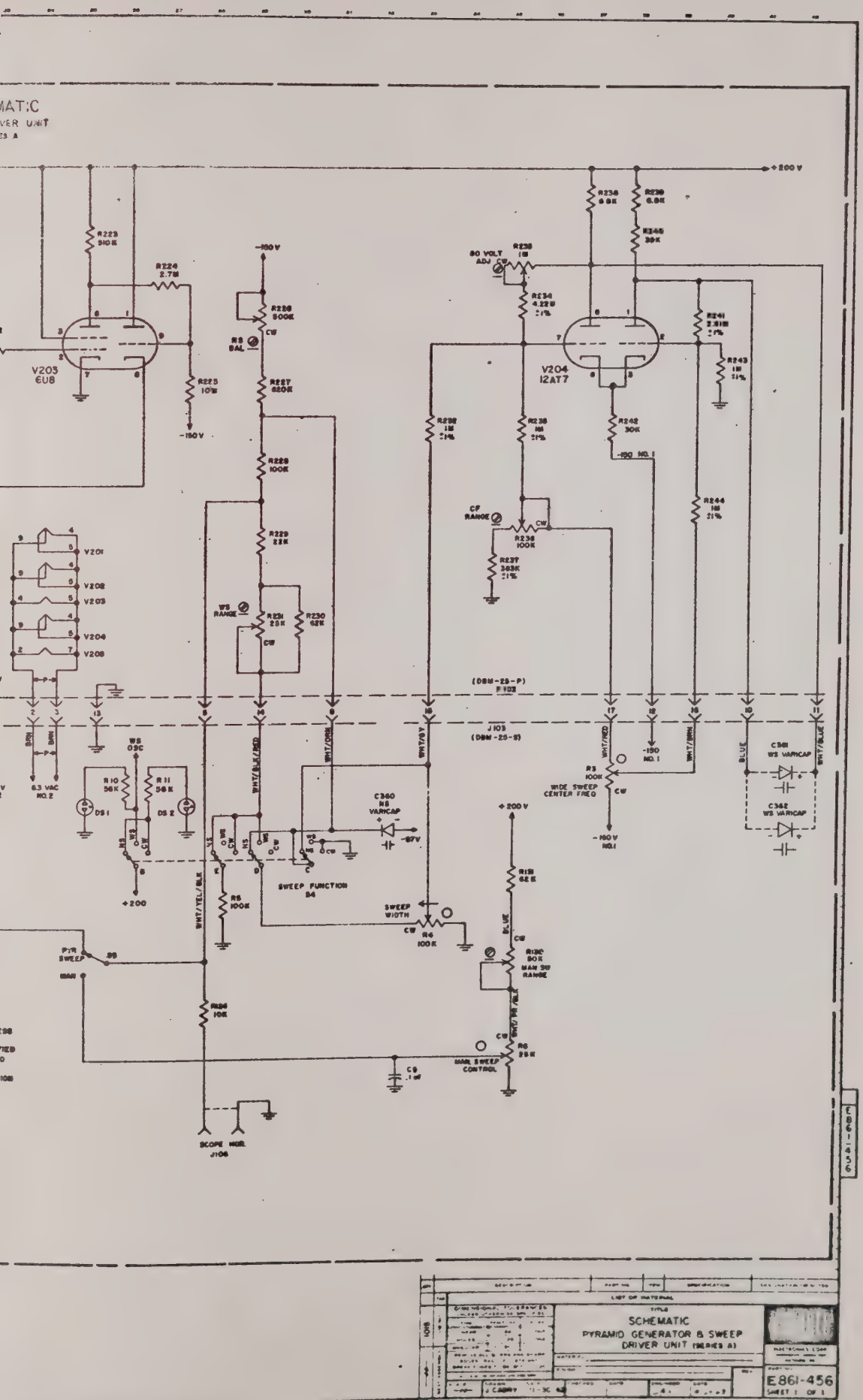


NOTES

1. ALL RESISTOR VALUES GIVEN ARE IN OHMS, 1/2 WATT, 5% UNLESS OTHERWISE SPECIFIED.
2. ALL CAPACITOR VALUES ARE IN PF UNLESS OTHERWISE SPECIFIED.
3. CIRCUITS SHOWN BELOW DOTTED LINE OF P103 ARE EXTERNAL TO THE SWEEP DRIVER UNITS AND ARE SHOWN FOR CONTINUITY REFERENCE ONLY. REFER TO RESPECTIVE DETAILS FOR INFORMATION AS FOLLOWS:

SYMBOLS	
1-99	FRONT PANEL
600 SERIES	REAR PANEL
300 SERIES	OSC ASS'Y
100 SERIES	MAIN CHASSIS (P3)

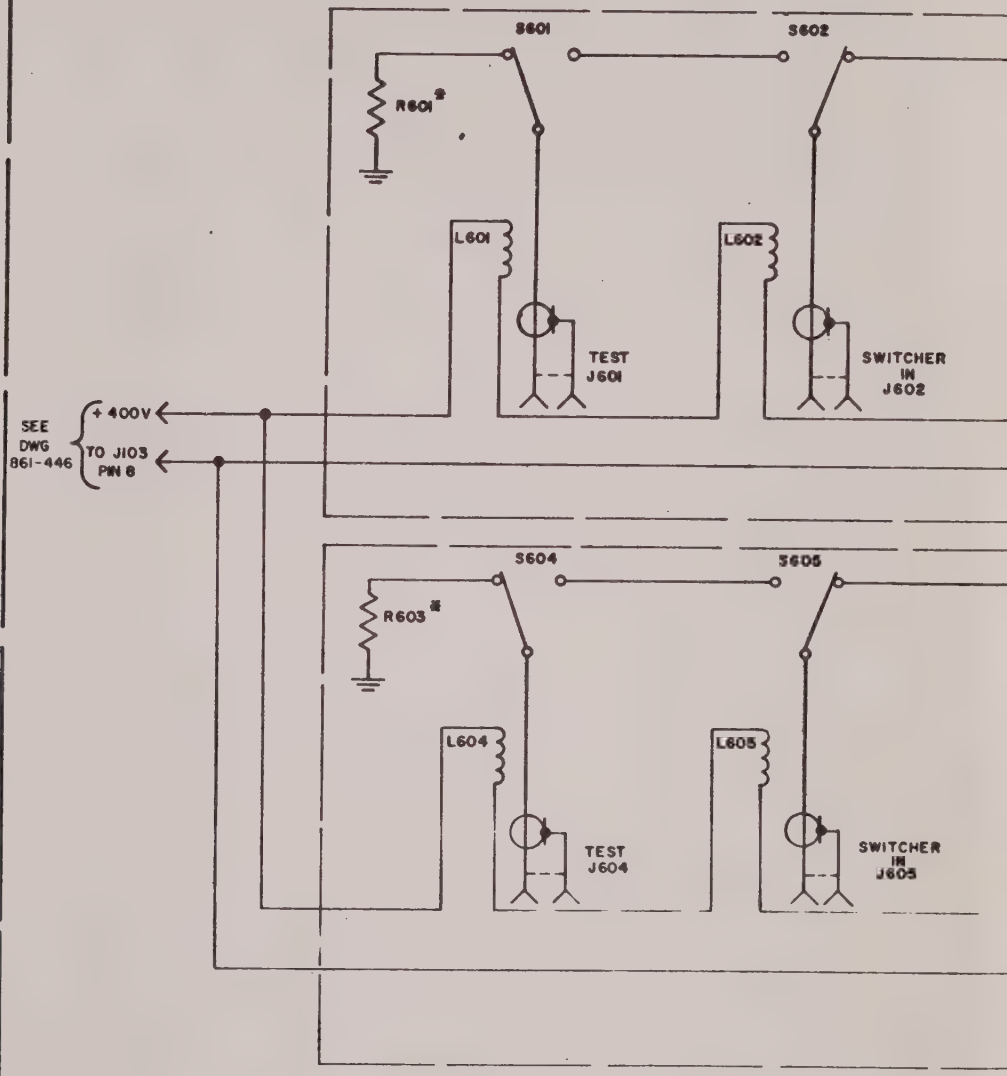
- ○ KNOB CONTROL (EXTERNAL)
- ② S D ADJUSTMENT (EXTERNAL)
- ② S D ADJUSTMENT (INTERNAL)



SCHEMATIC
PYRAMID GENERATOR & SWEEP
DRIVER UNIT (SERIES A)

E861-456
SHEET 1 OF 1

REVISIONS		
DESCRIPTION	CKD	ENG
RELEASED FOR PROD		



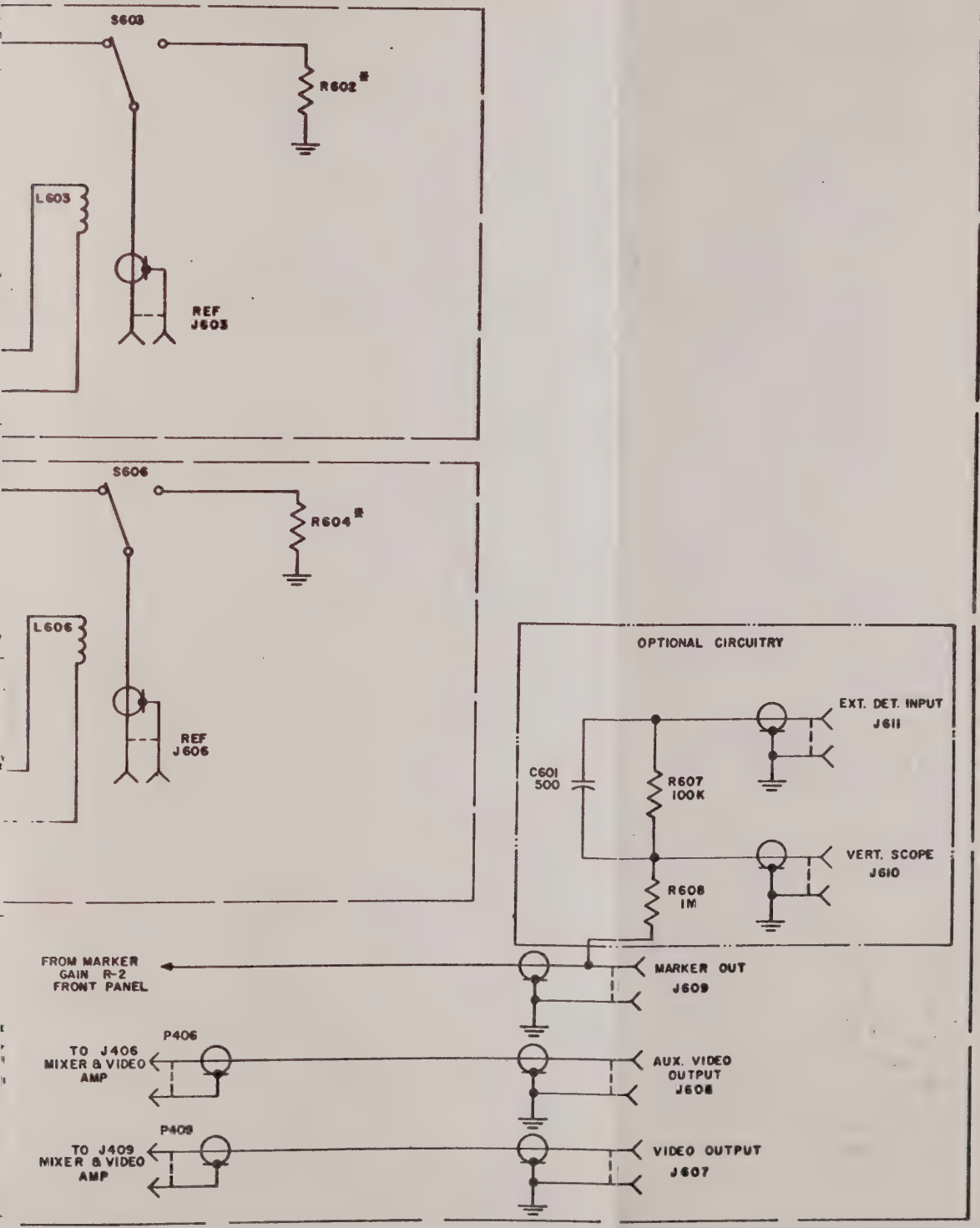
NOTES
1. ALL RESISTOR VALUES GIVEN IN OHMS, 1/2 WATT UNLESS OTHERWISE SPECIFIED.
2. ALL CAPACITOR VALUES GIVEN IN PF, UNLESS OTHERWISE SPECIFIED.
3. SWITCHES SHOWN IN DEENERGIZED POSITIONS.

* NOTE
75 OHM MODEL R601, R602, R603, R604 VALUES 75 OHM, 1/2 W, 1%
50 OHM MODEL R601, R602, R603, R604 VALUES 50 OHM, 1/2 W, 1%

D861-453-0

THIS DRAWING CONTAINS PROPRIETARY DATA FURNISHED ONLY TO CONVEY INFORMATION TO PRESENT OR PROSPECTIVE CUSTOMERS IT SHALL NOT BE REPRODUCED OR TRANSFERRED TO OTHERS OR USED FOR THE MANUFACTURE OR SALE OF APPARATUS EXCEPT UNDER WRITTEN PERMISSION OF THE ISSUING CORPORATION

SCHEMATIC
REAR PANEL
SERIES A&B



LAST USED

R608
L606
S606
J611
C601

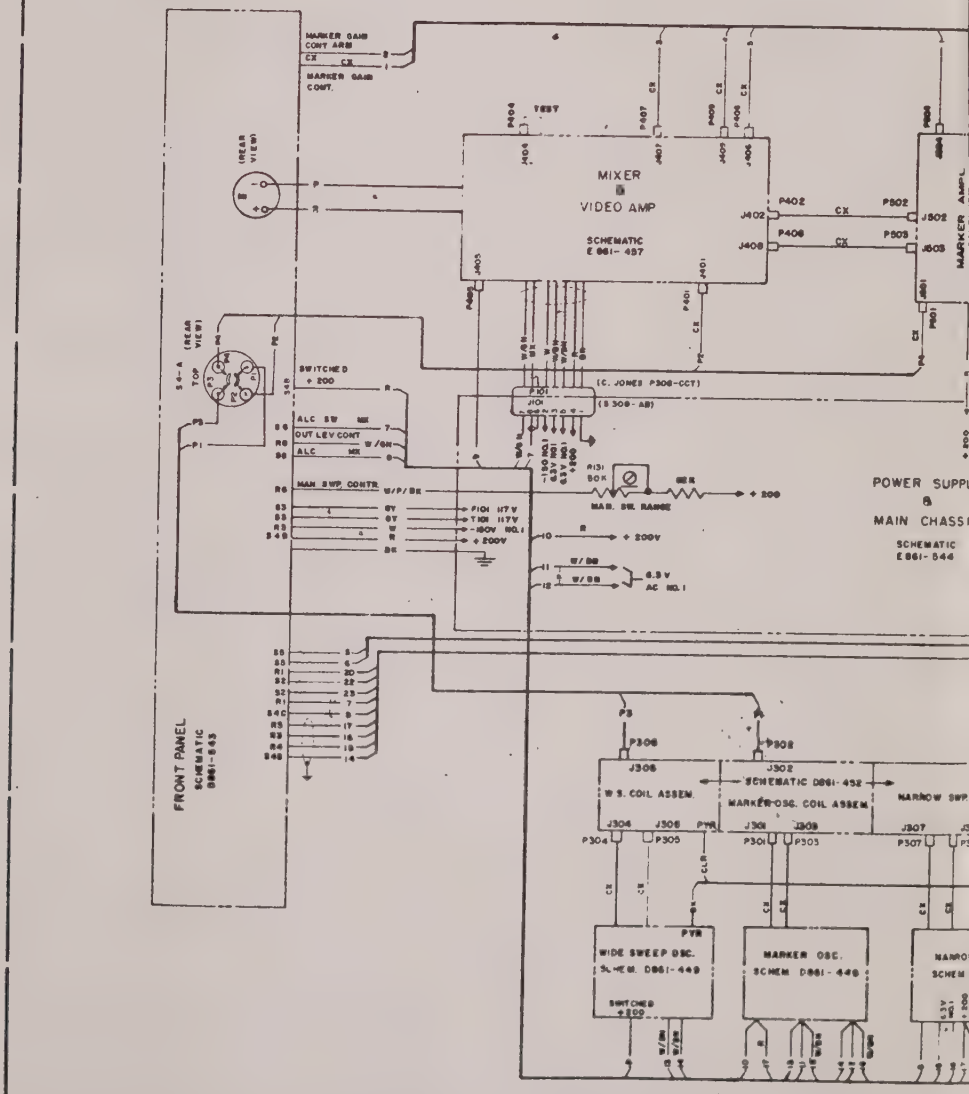
QTY	DESCRIPTION	PART NO	ITEM	SPECIFICATION	DESIGNATION OR NOTES
TAB	LIST OF MATERIAL				

JOB NO	1015
NEXT ASSEMBLY	—
DIMENSIONAL TOLERANCES UNLESS OTHERWISE SPECIFIED	TYPE / FRACTIONAL / DECIMAL LINEAR / ± 1/64 / .005 HOLES / 1 1/28 / .002 ANGULAR / 1°
REMOVE ALL BURRS AND SHARP EDGES. RADII, FILLETS AND BREAK EDGES TO BE .005 TO .020	
ALL DIM. IN INCHES UNLESS SPEC.	
TITLE	SCHEMATIC REAR PANEL MODEL 1015 SERIES A&B
MATERIAL	
FINISH	
SCALE	—
DRAWN	J. CABRY
DATE	12-3-62
CHECKED	
DATE	
ENGINEER	
DATE	
REV	C
ELECTRONICS CORP	
PART NO	D861-453
SHEET	1 OF 1

D861-453

INTERCONNECTION

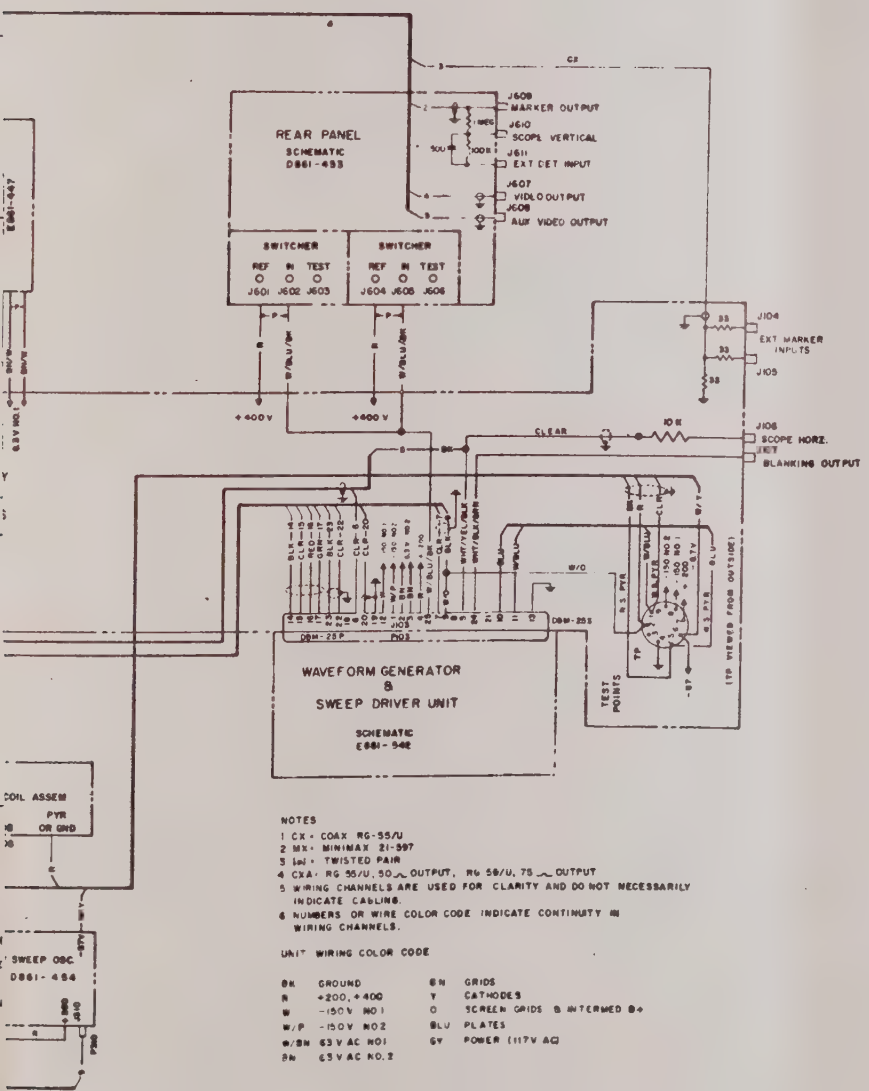
1015 SWEEP GENE
SERIES



E862-012-0

DIAGRAM

ATOR



NOTES

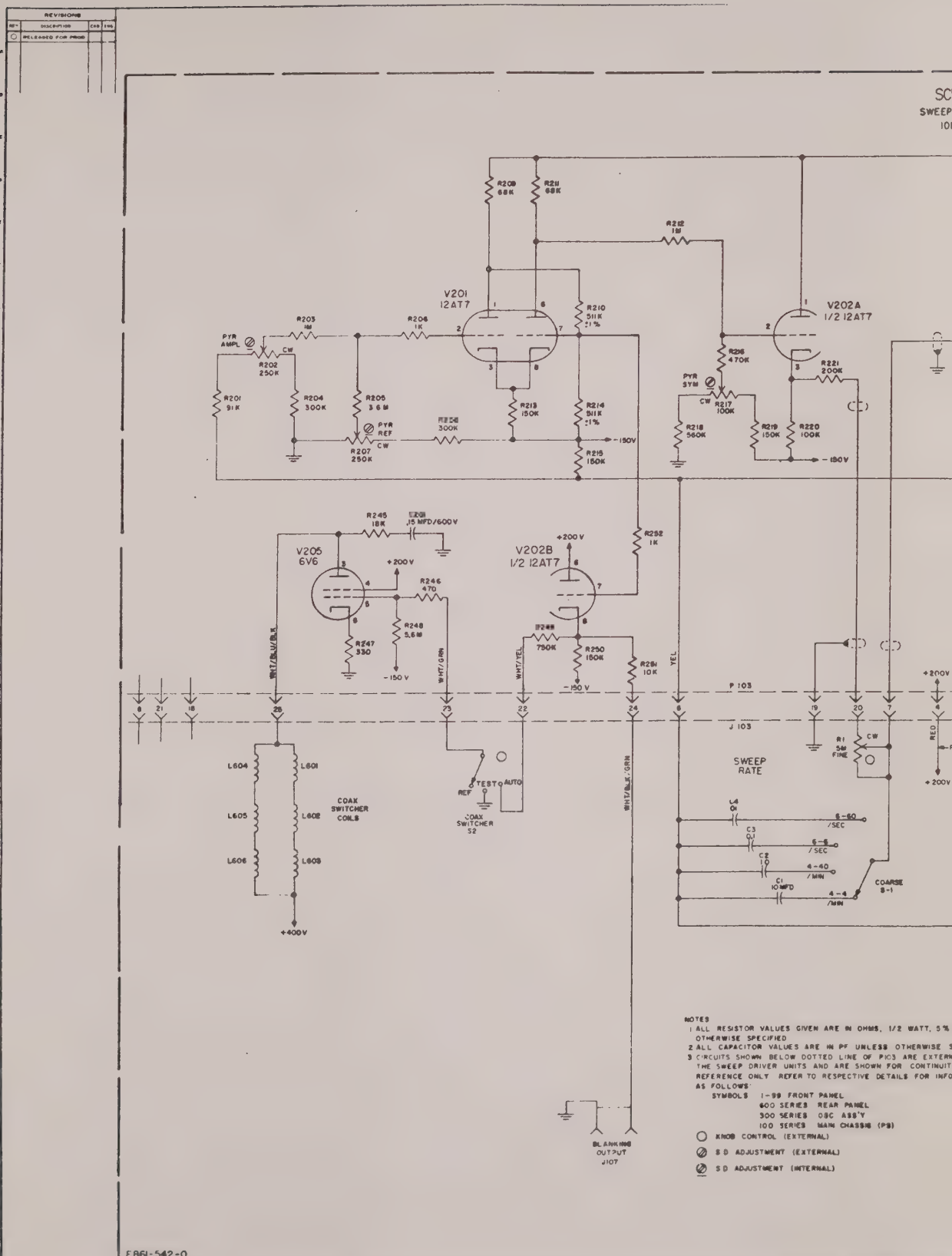
1 CX = COAX RG-55/U
2 MX = MINIMAX 21-597
3 (sic) = TWISTED PAIR
4 CXA = RG 55/U, 50Ω OUTPUT, RG 59/U, 75Ω OUTPUT
5 WIRING CHANNELS ARE USED FOR CLARITY AND DO NOT NECESSARILY INDICATE CABLING.
6 NUMBERS OR WIRE COLOR CODE INDICATE CONTINUITY IN WIRING CHANNELS.

UNIT WIRING COLOR CODE

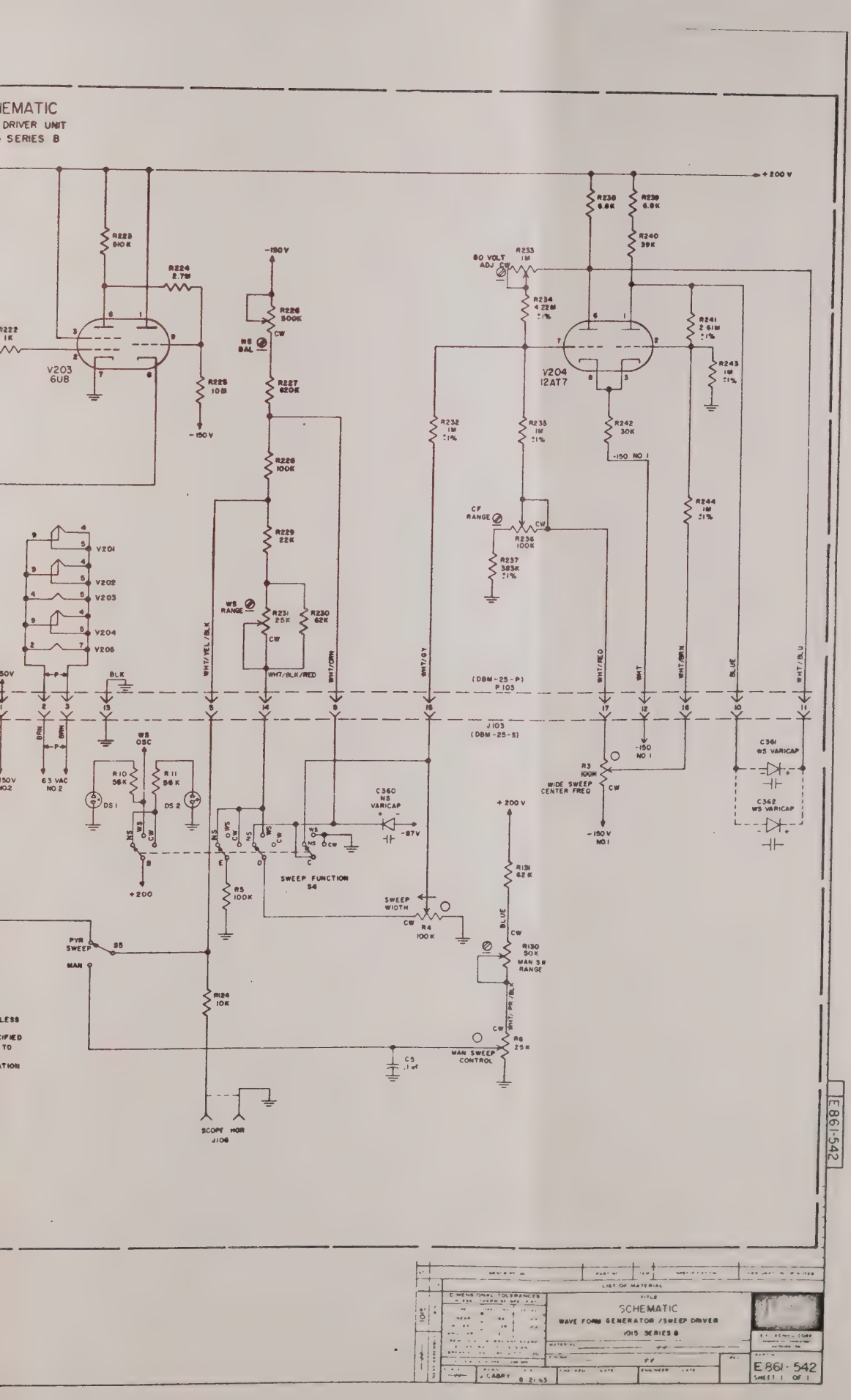
BK	GROUND	GN	GRIDS
R	+200, +400	Y	CATHODES
W	-150V NO 1	O	SCREEN GRIDS & INTERMED B+
W/P	-150V NO 2	BLU	PLATES
W/BN	63 V AC NO 1	GY	POWER (117V AC)
BN	63 V AC NO. 2		

INTERCONNECTION DIAGRAM
1015 SWEEP GENERATOR
SERIES B

E962 .12



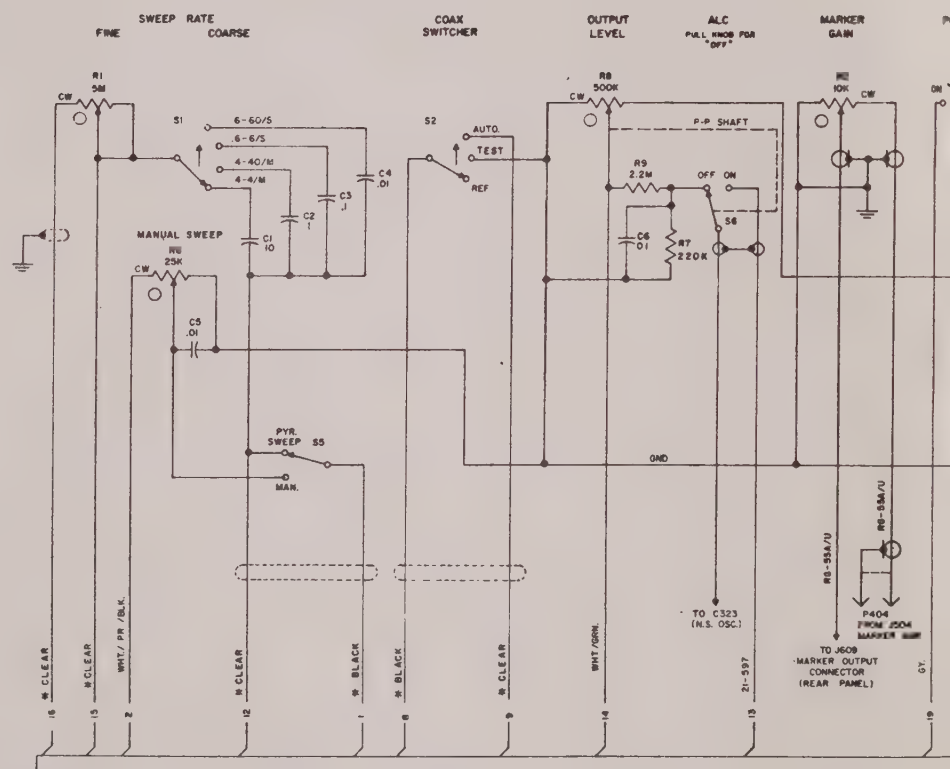
NOTES
1 ALL RESISTOR VALUES GIVEN ARE IN OHMS, 1/2 WATT, 5% OTHERWISE SPECIFIED
2 ALL CAPACITOR VALUES ARE IN PF UNLESS OTHERWISE S
3 CIRCUITS SHOWN BELOW DOTTED LINE OF PIC3 ARE EXTERN THE SWEEP DRIVER UNITS AND ARE SHOWN FOR CONTINUIT REFERENCE ONLY REFER TO RESPECTIVE DETAILS FOR INFO AS FOLLOWS:
SYMBOLS 1-99 FRONT PANEL
600 SERIES REAR PANEL
300 SERIES OSC ASS'Y
100 SERIES MAIN CHASSIS (PS)
KNOB CONTROL (EXTERNAL)
SD ADJUSTMENT (EXTERNAL)
SD ADJUSTMENT (INTERNAL)


EMATIC
DRIVER UNIT
SERIES B
+200 V
-150 V
V203
6U8
V204
12AT7
R223 840K
R224 2.7M
R225 10M
R226 500K
NS BAL
R227 620K
R228 100K
R229 22K
R230 62K
R231 25K
WS RANGE
R232 1M ±1%
R233 1M
80 VOLT ADJ
R234 4.22M ±1%
R235 1M ±1%
R236 100K
CF RANGE
R237 383K ±1%
R238 6.8K
R239 6.8K
R240 39K
R241 2.61M ±1%
R242 30K
R243 1M ±1%
R244 1M ±1%
-150 NO 1
V201
V202
V203
V204
V205
WHT/YEL/BLK
WHT/BLK/RED
WHT/ORN
WHT/GY
WHT/RED
WHT
WHT/BRN
BLUE
WHT/BLU
BLK
(DBM-25-P)
P103
J103
(DBM-25-S)
63 VAC NO 2
WS OSC
R10 56K
R11 56K
DS 1
DS 2
+200
C360 NS VARICAP
-87V
C361 WS VARICAP
C362 WS VARICAP
R3 100K
WIDE SWEEP CENTER FREQ
-150 NO 1
+200 V
SWEEP FUNCTION S4
SWEEP WIDTH
R4 100K
R5 100K
R131 62K
R130 50K MAN SW RANGE
WHT/PK/BLK
R6 25K
MAN SWEEP CONTROL
C5 .1 uf
R124 10K
PWR SWEEP
MAN
SCOPE HOR J106
E861-542
SCHEMATIC
WAVE FORM GENERATOR /SWEEP DRIVER
1015 SERIES B
E 861-542
SHEET 1 OF 1

REVISIONS

REV	DESCRIPTION	CHK	DWG
-	RELEASED FOR PROD		

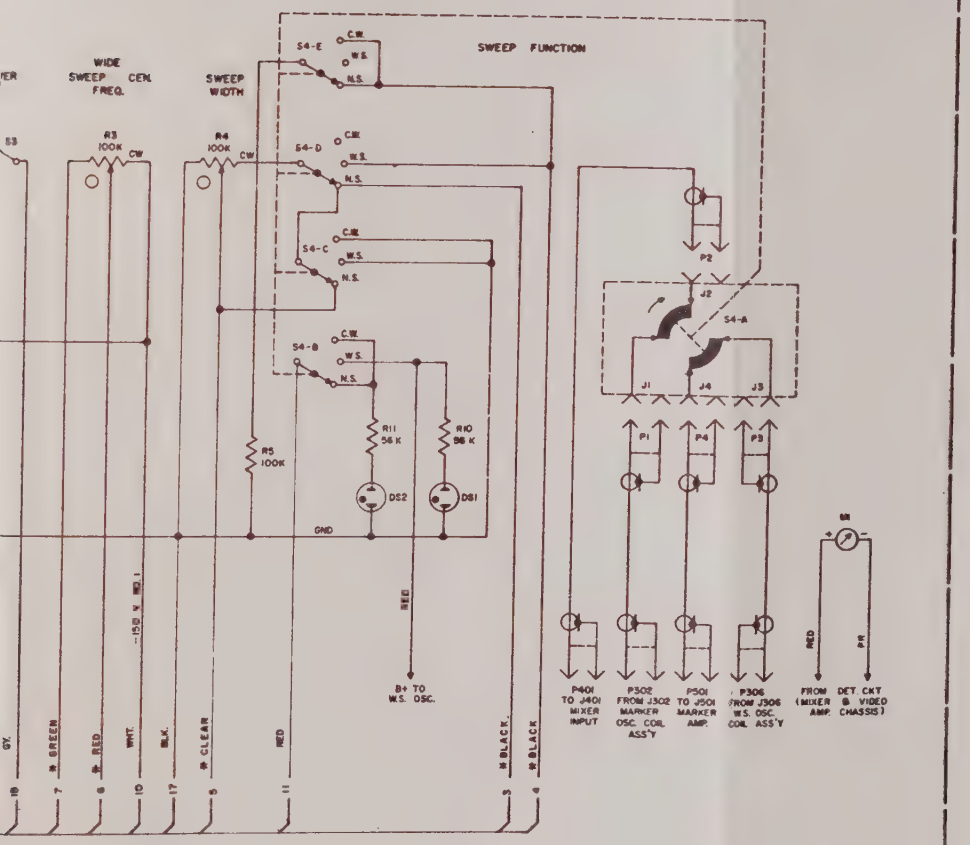
SCHEMATIC
FRONT PANEL
MODEL 1015



FOR CONTINUITY SEE DWG E861-446

E861-543-0

LAST USED
R11
C8
S6
D62



NOTES:

1. ALL RESISTOR VALUES IN OHMS, 1/2 WATT, UNLESS OTHERWISE SPECIFIED.
2. ALL CAPACITOR VALUES IN MFD. UNLESS OTHERWISE SPECIFIED.
3. ○ = KNOB CONTROL
   ⊘ = INT. ADJ.
   ⊘ = EXT. ADJ.
4. # - WIRES IN SHIELDED CABLES

COND'S	# WIRE NO'S
1	15
2	1,12
2	3,8
2	8,9
4	4,5,6,7

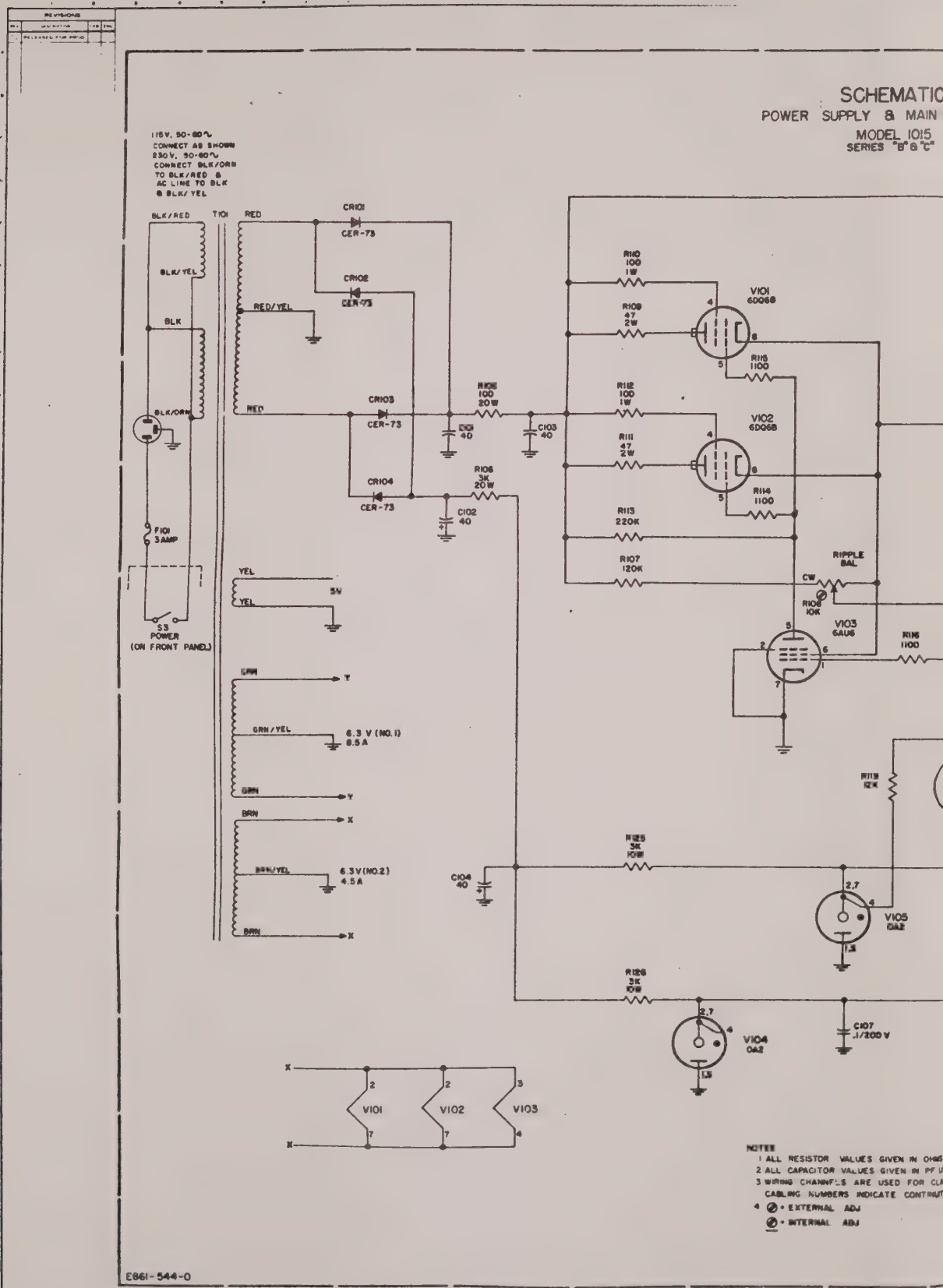
0 E861-543

LIST OF MATERIAL

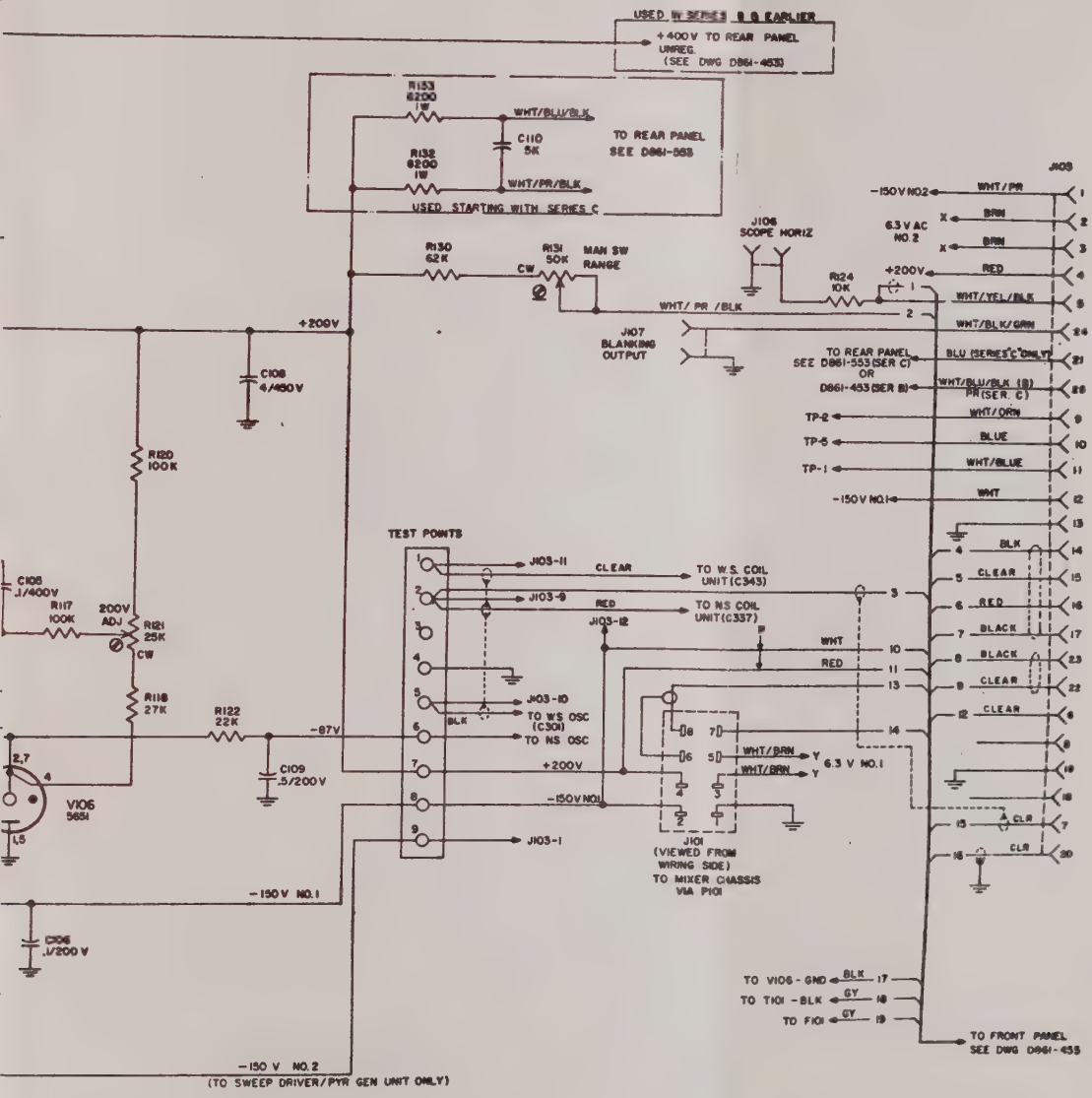
SCHEMATIC
FR5AT PANEL
W/OEL. 10/5
SERIES 805

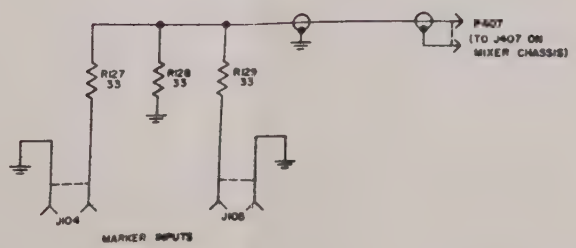
CARBONE

0 E861-543
SHEET 1 OF 1


SCHEMATIC
POWER SUPPLY & MAIN
MODEL 1015
SERIES "B" & "C"
115V, 50-60~
CONNECT AS SHOWN
230V, 50-60~
CONNECT BLK/ORN
TO BLK/RED &
AC LINE TO BLK
& BLK/YEL
BLK/RED
BLK/YEL
BLK
BLK/ORN
T101
RED
RED/YEL
CR101
CER-73
CR102
CER-73
CR103
CER-73
CR104
CER-73
F101
3 AMP
S3
POWER
(ON FRONT PANEL)
YEL
YEL
5V
GRN
GRN/YEL
6.3 V (NO.1)
0.5A
BRN
BRN
BRN/YEL
6.3V(NO.2)
4.5A
BRN
R108
100
20W
C101
40
C103
40
R110
100
1W
R109
47
2W
V101
6DQ6B
R115
1100
R112
100
1W
V102
6DQ6B
R111
47
2W
R114
1100
R106
3K
20W
C102
40
R113
220K
R107
120K
RIPPLE
BAL
CW
R104
10K
V103
6AU6
R116
1100
R105
3K
10W
C104
40
V105
0A2
R126
3K
10W
V104
0A2
C107
.1/200V
V101
V102
V103
NOTES
1 ALL RESISTOR VALUES GIVEN IN OHMS
2 ALL CAPACITOR VALUES GIVEN IN PF U
3 WIRING CHANNELS ARE USED FOR CL
CABLING NUMBERS INDICATE CONTRU
4 ⊘ = EXTERNAL ADJ
⊘ = INTERNAL ADJ
E661-544-0

CHASSIS





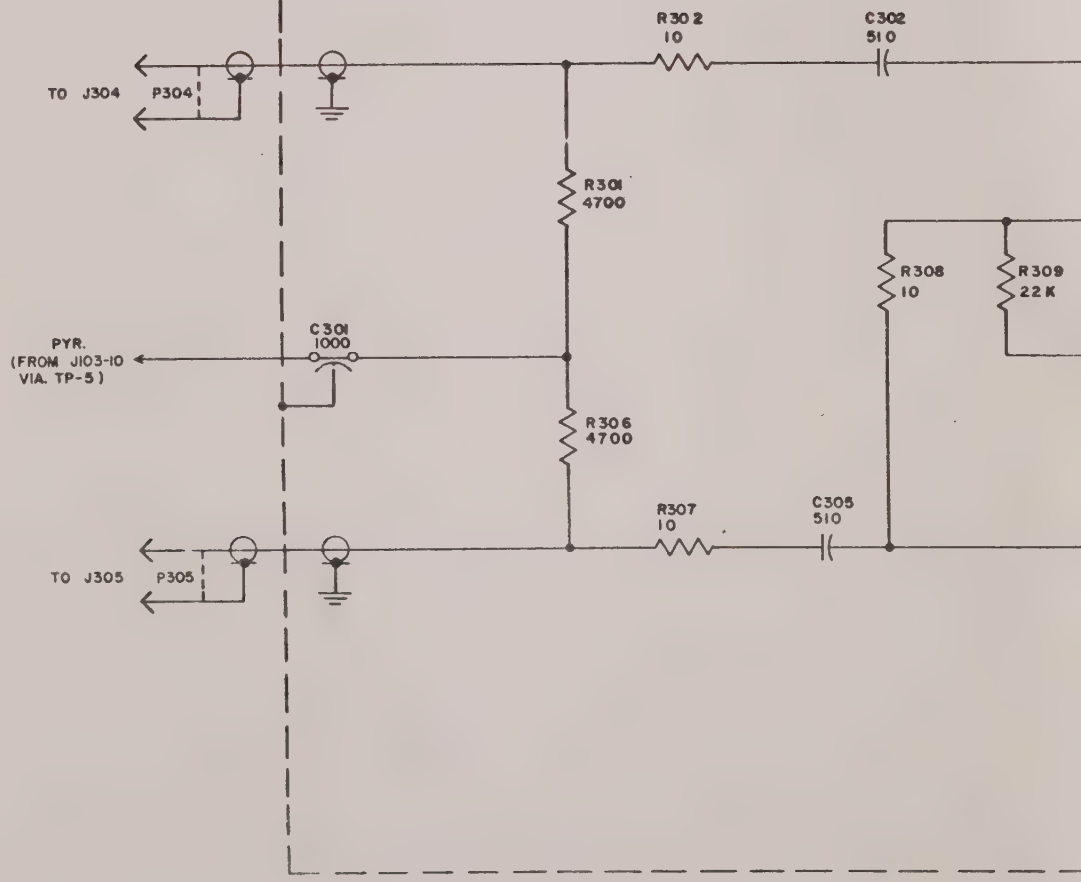
1/2 WATT UNLESS OTHERWISE SPECIFIED.
LESS OTHERWISE SPECIFIED.
ITY AND DO NOT NECESSARILY INDICATE

OE 861-544

SCHEMATIC			
POWER SUPPLY AND MAIN CHASSIS			
MODEL 1085 SERIES B & C			
J. CASEY 2-18-63		0	E861-544 SHEET 1 OF 1

REVISIONS			
	DESCRIPTION	CKD	ENG.
	RELEASED FOR PROD		

SCHEMAT
WIDE SWEEP
MODEL 1015
SERIES A,B,&C



D861-449-0

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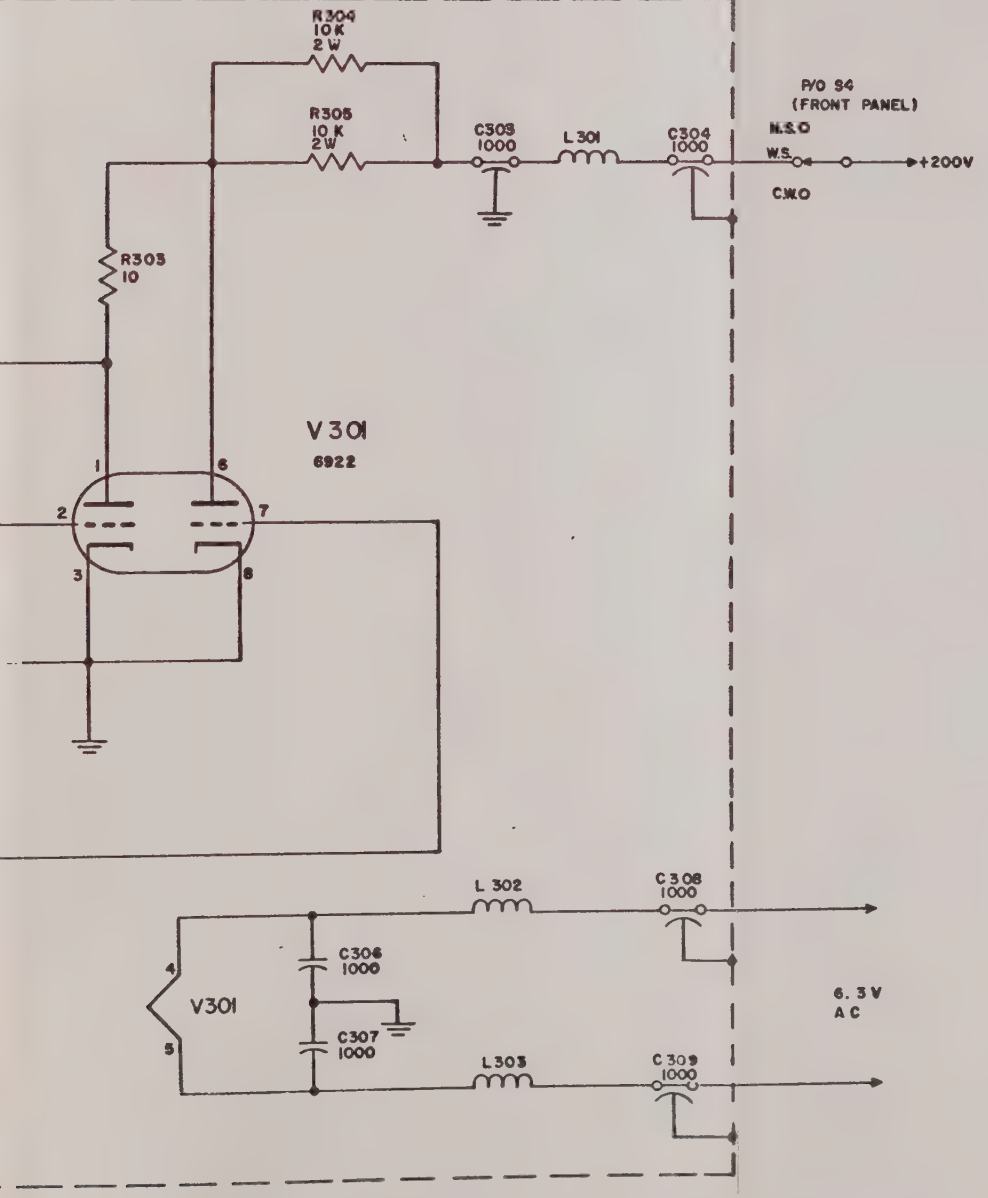
C
OSC.



NOTES:
1. ALL RESISTOR VALUES GIVEN IN OHMS, 1/2 WATT, UNLESS OTHERWISE SPECIFIED.
2. ALL CAPACITOR VALUES GIVEN IN PF UNLESS OTHERWISE SPECIFIED.

IST USED
:309
.303
P304 & P305
R309
V301

LIST OF MATERIAL

TAB			
1015	DIMENSIONAL TOLERANCES UNLESS OTHERWISE SPECIFIED	TITLE: SCHEMATIC WIDE SWEEP OSC. MODEL 1015 SERIES A,B,&C	ELECTRONICS CORP
NEXT ASSEMBLY	REMOVE ALL BURRS AND SHARP EDGES RADII FILLETS AND BREAK EDGES TO BE .005 +/- .020	MATERIAL / FINISH / REV	PART NO D861-449 SHEET 1 OF 1
	DRAWN LYONS 10-22-62	CHECKED / ENGINEER / DATE	

D861-449

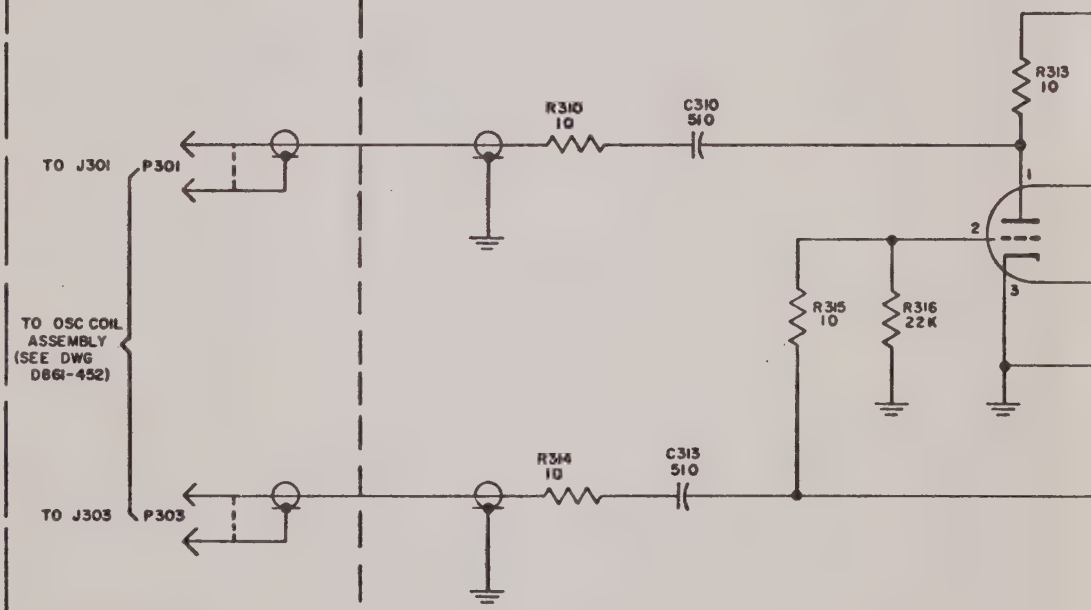
REVISIONS			
REV	DESCRIPTION	CKD	ENG
○	RELEASED FOR PROD		

SCHEMAT

MARKER OSCILL

MODEL 1015

SERIES A, B, & C



NOTES

1. ALL RESISTOR VALUES GIVEN IN OHMS, 1/2 WATT UNLESS OTHERWISE SPECIFIED.
2. ALL CAPACITOR VALUES GIVEN IN PF UNLESS OTHERWISE SPECIFIED.

D861-448-0

LAST
C31
L30
P30
R31
V30

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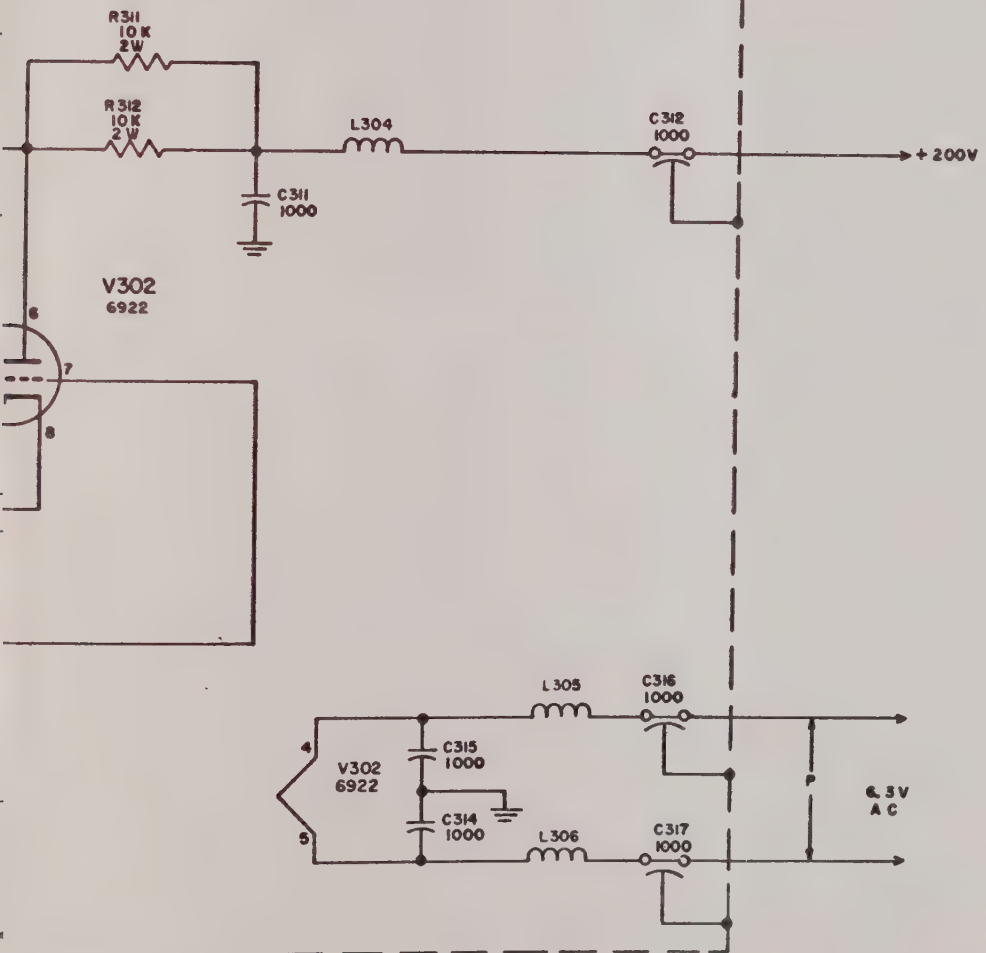
IC
ATOR



ED

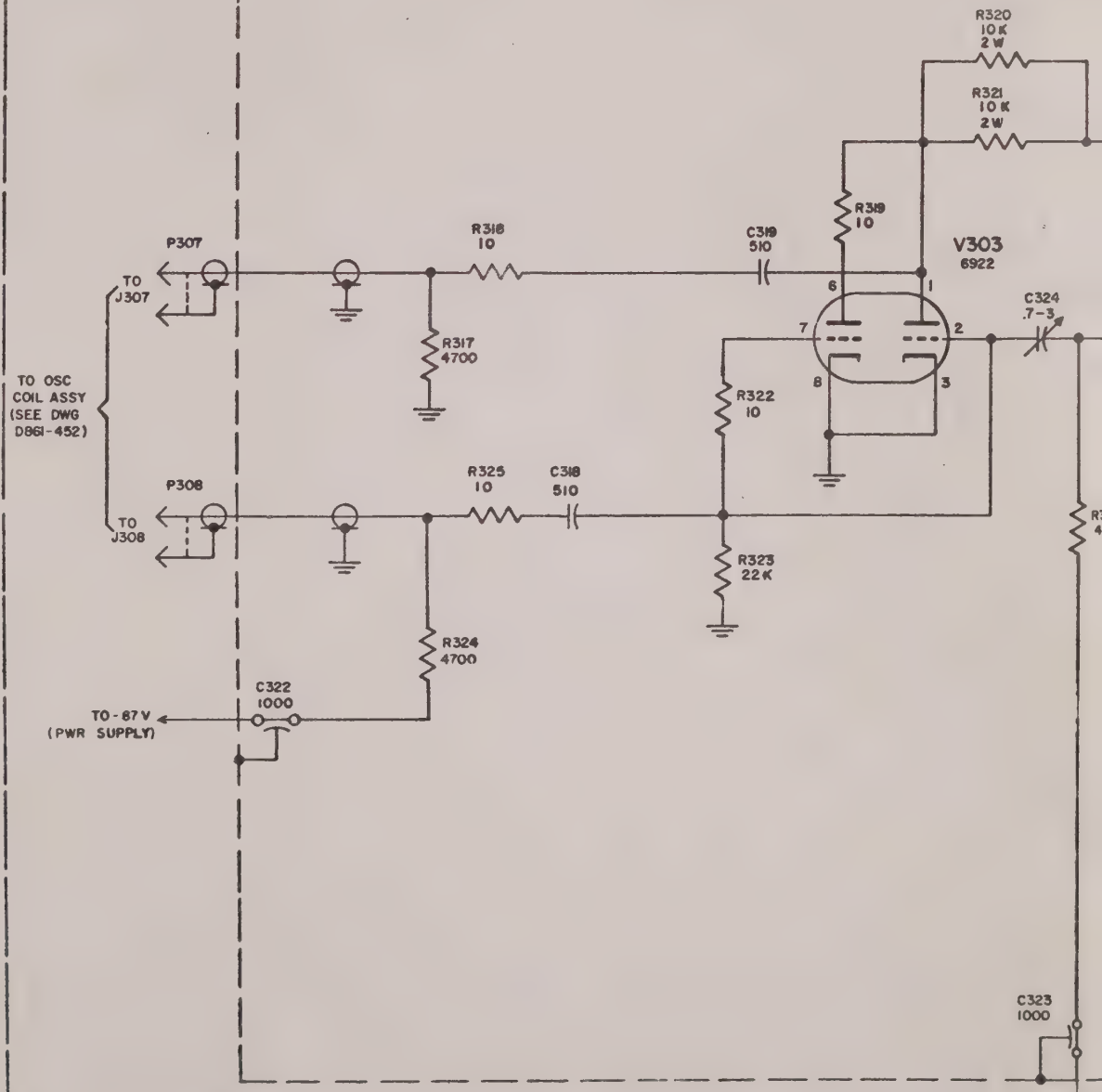
303

1015	TAB	DIMENSIONAL TOLERANCES UNLESS OTHERWISE SPECIFIED			LIST OF MATERIAL		
JOB NO		TYPE	FRACTIONAL	DECIMAL	TITLE		
		LINEAR	± 1/64	.005	SCHEMATIC MARKER OSCILLATOR MODEL 1015 SERIES A,B,&C		
		HOLES	± 1/128	.002			
		ANGULAR	± 1°				
NEXT ASSEMBLY		REMOVE ALL BURRS AND SHARP EDGES RADII FILLETS AND BREAK EDGES .01 TO .05 W. .020			MATERIAL		ELECTRONICS CORP.
					FINISH	REV	PART NO
		SCALE	DRAWN LYONS	DATE 10-23-62	CHECKED DATE	ENGINEER DATE	0	D861-448
							SHEET 1 OF 1

G
D
8
6
1
-
4
4
8

REVISIONS			
REV	DESCRIPTION	CKD	ENG
C	RELEASED FOR PROD		

SCHEMA
NARROW SWEEP
MODEL 101
SERIES A,B,&C



NOTES:
1. ALL RESISTOR VALUES IN OHMS, 1/2 WATT UNLESS OTHERWISE SPECIFIED.
2. ALL CAPACITOR VALUES IN PF UNLESS OTHERWISE SPECIFIED.

D861-454-0

COMPONENTS
C318 TO C33
J310
L307 TO L31
P307 & P30
R317 TO R33
V303 & V30

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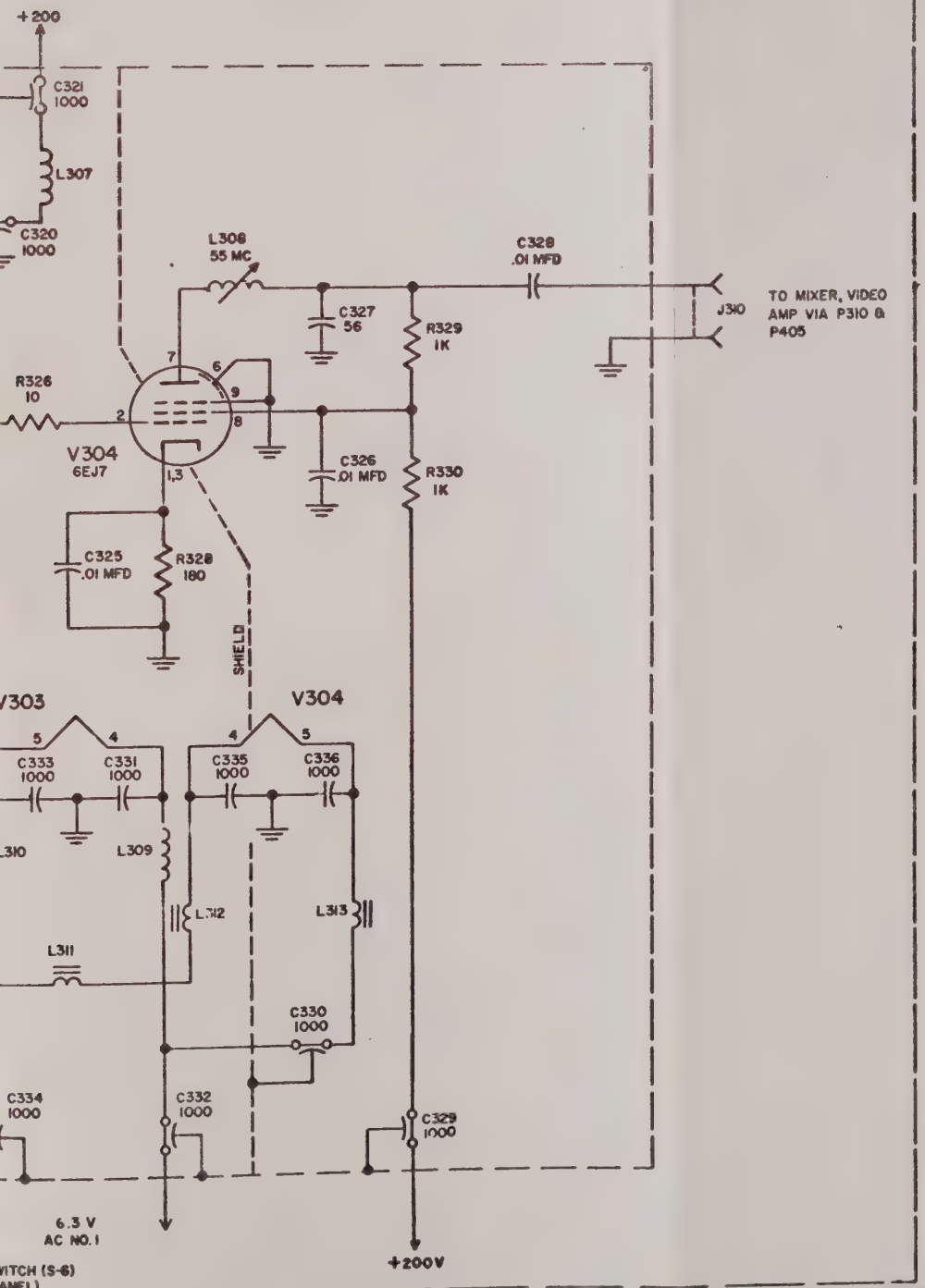
C
SCILLATOR



WITCH (S-6)
ANEL)

ED

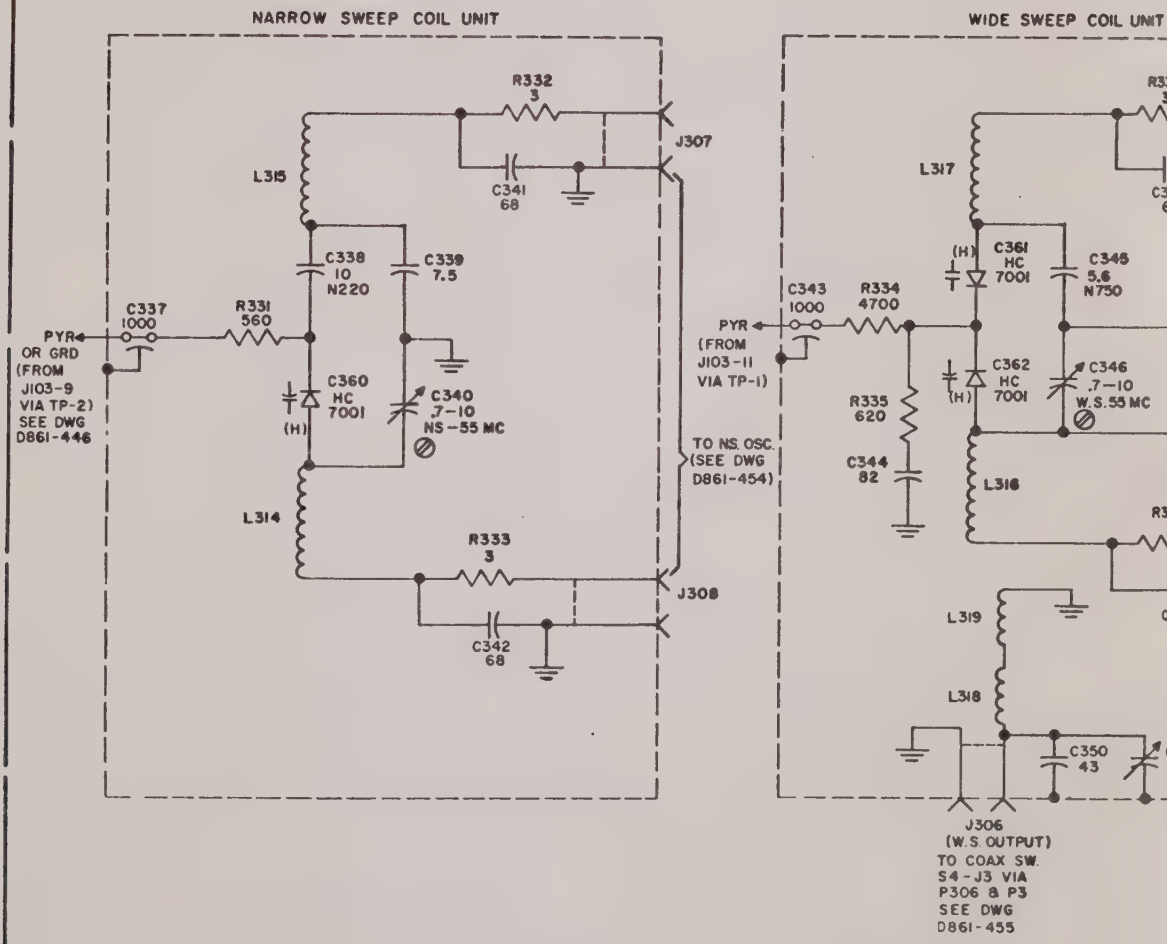
LIST OF MATERIAL

TAB	DIMENSIONAL TOLERANCES UNLESS OTHERWISE SPECIFIED	TITLE: SCHEMATIC NARROW SWEEP OSCILLATOR MODEL 1015 SERIES A,B,&C	ELECTRONICS CORP. Engineering Laboratory Hatboro Pa
JOB NO 1015	TYPE / FRACTIONAL / DECIMAL; LINEAR ± 1/64 .005; HOLES ± 1/128 .002; ANGULAR ± 2°	MATERIAL	PART NO D861-454
NEXT ASSEMBLY	REMOVE ALL BURRS AND SHARP EDGES RADII FILLETS AND BREAK EDGES TO BE 60% TO 020	FINISH	REV
	SCALE —	DRAWN LYONS DATE 10-23-62	CHECKED DATE ENGINEER DATE
			SHEET 1 OF 1

D861-454

REVISIONS			
EV	DESCRIPTION	CKD	ENG
	RELEASED FOR PROD		

SCHEMA
OSCILLATOR COIL
SERIES A,8,



D861-452-0

COMPONENT
C337 TO C3
R331 TO R3
L314 TO L3
J301 TO J3

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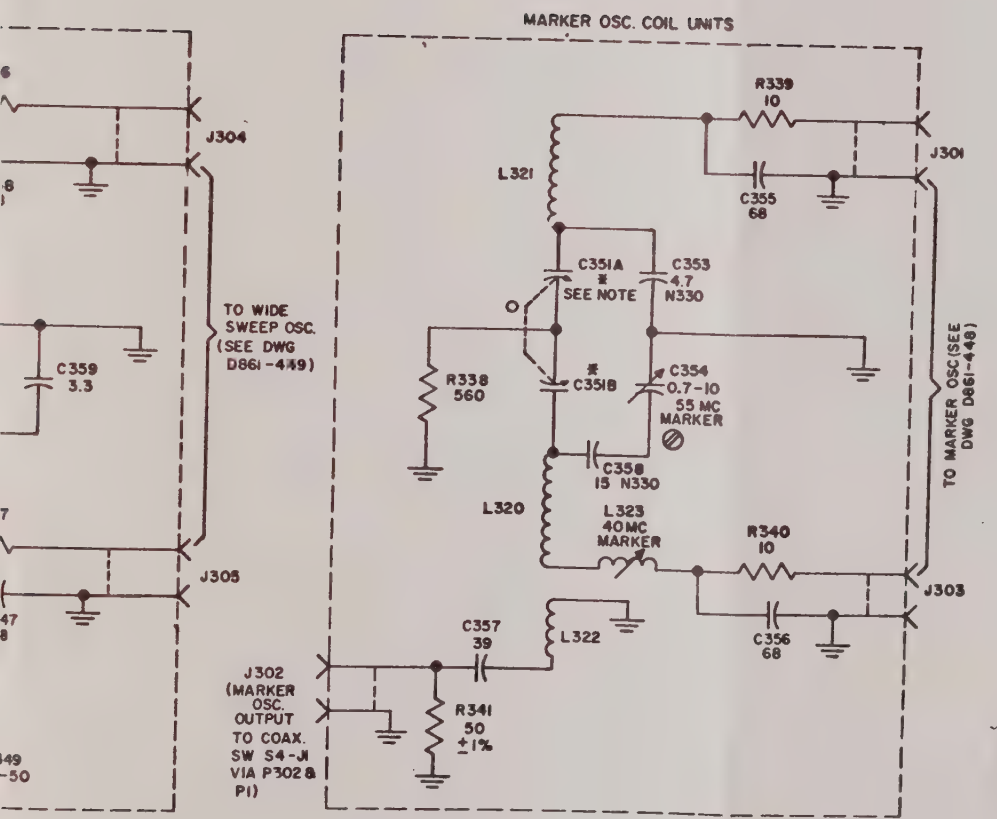
PRINTED IN U.S.A.

TIC
ASSEMBLY
C



NOTES

1. ALL RESISTOR VALUES IN OHMS, 1/2 WATT UNLESS OTHERWISE SPECIFIED.
2. ALL CAPACITOR VALUES IN PF UNLESS OTHERWISE SPECIFIED.

D861-452

QTY	DESCRIPTION	PART NO	ITEM	SPECIFICATION	DESIGNATION OR NOTES
	LIST OF MATERIAL				

DIMENSIONAL TOLERANCES UNLESS OTHERWISE SPECIFIED

LINEAR	
ANGULAR	

1015

TITLE
SCHEMATIC
OSCILLATOR COIL ASSEMBLY
MODEL 1015
SERIES A,B,&C

MATERIAL

FINISH

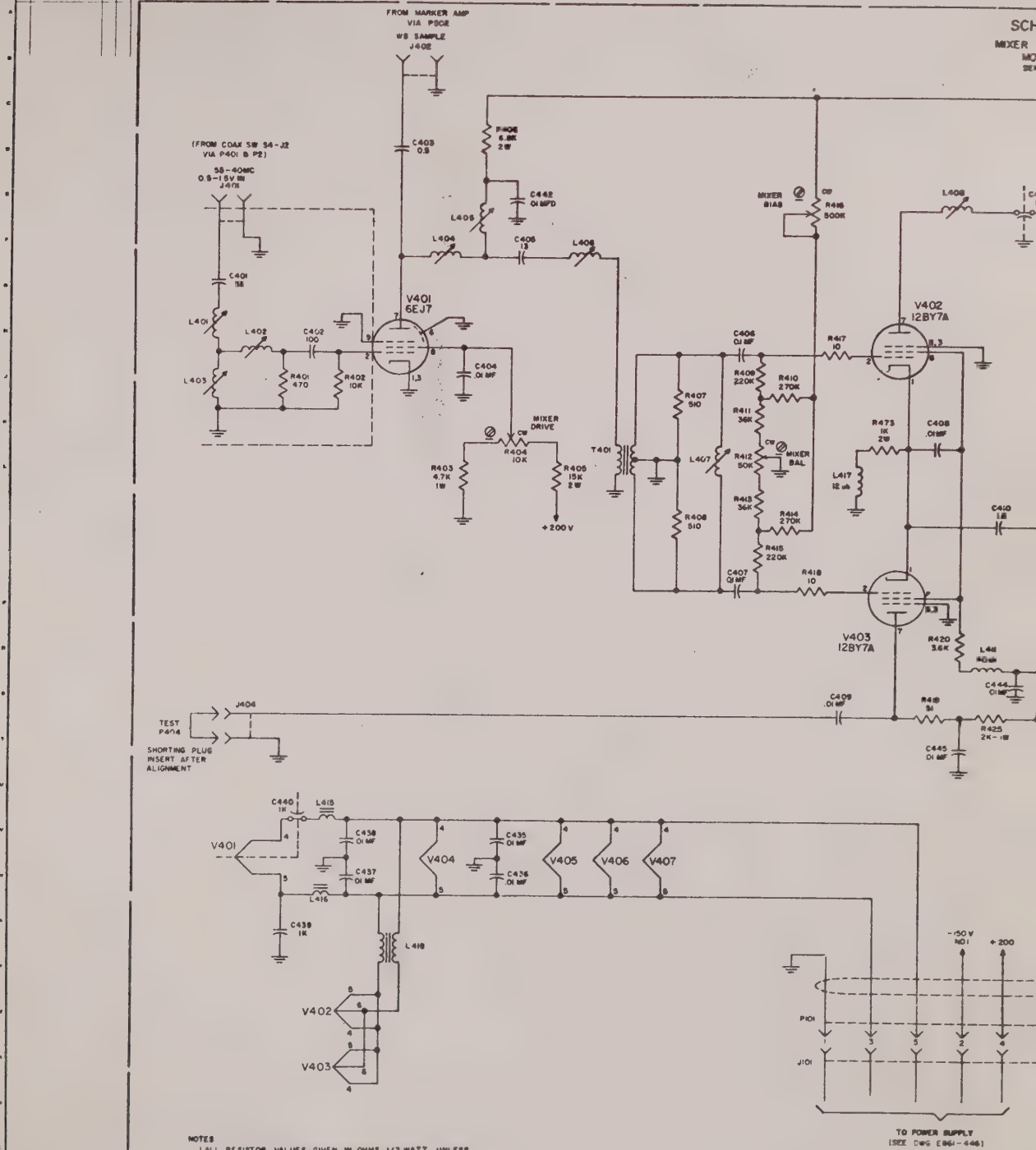
ELECTRONICS CORP

PART NO
D861-452
SHEET 1 OF 1

DRAWN J. CABRY 11-20-62

CHECKED

ENGINEER



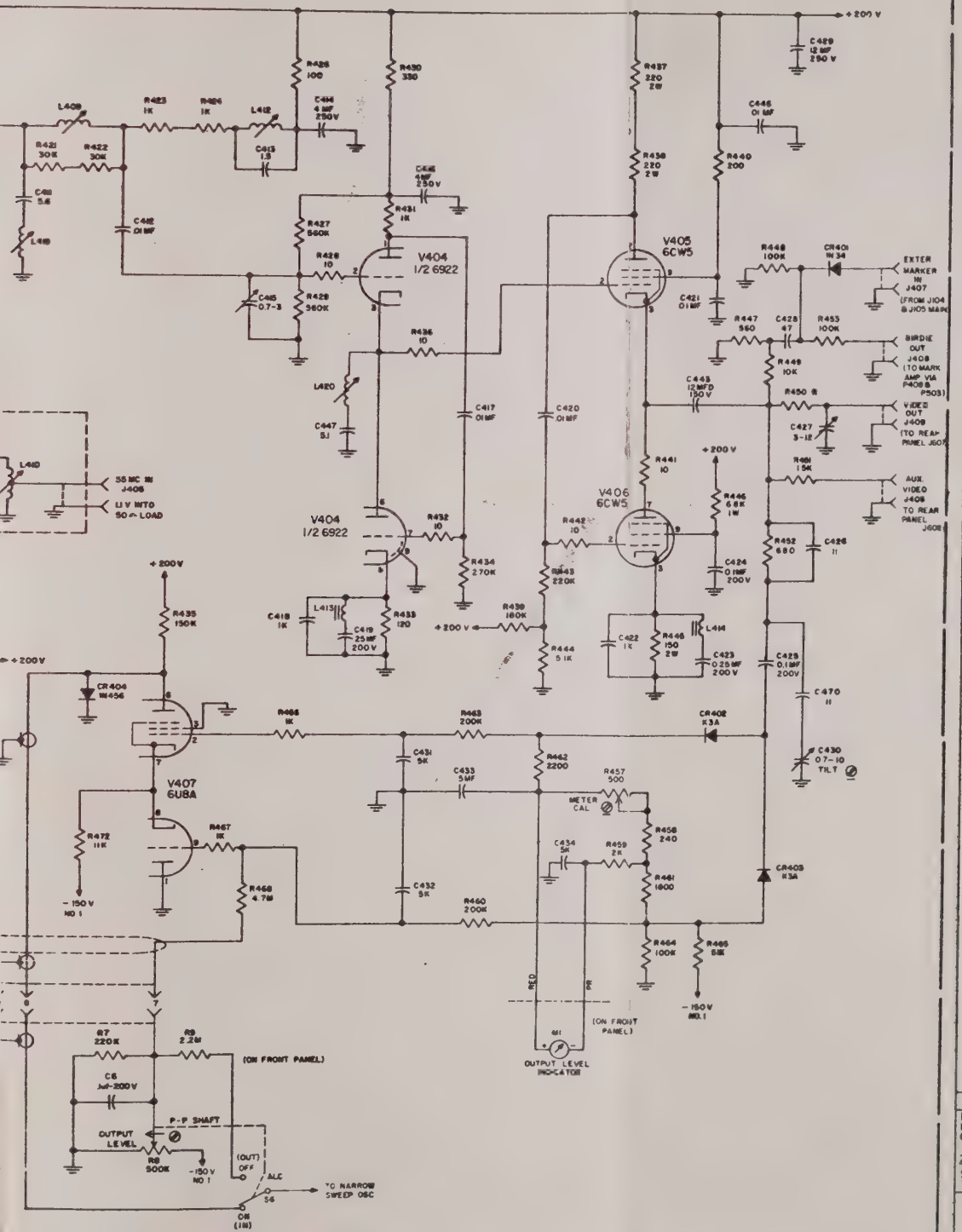
NOTES

1. ALL RESISTOR VALUES GIVEN IN OHMS, 1/2 WATT UNLESS OTHERWISE SPECIFIED.
2. ALL CAPACITOR VALUES GIVEN IN PF, UNLESS OTHERWISE SPECIFIED.
3. ⊘ = INTERNAL ADJ.

● 50 OHM MODEL — R450 — 50 OHM, 1/2 W, 1%
75 OHM MODEL — R450 — 75 OHM, 1/2 W, 1%

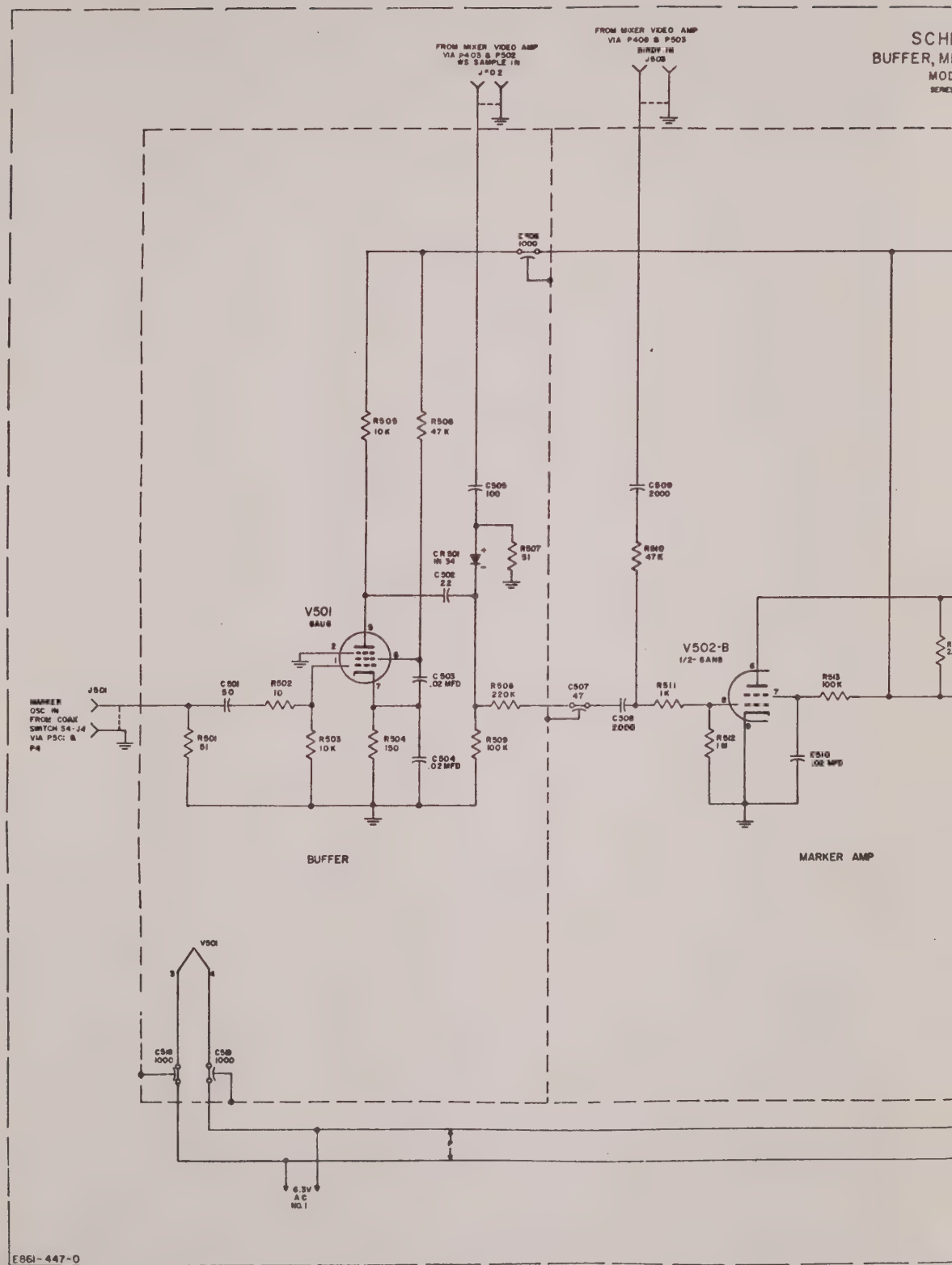
E861-457-0

MATIC
VIDEO AMP
L 1015
A,B,&C

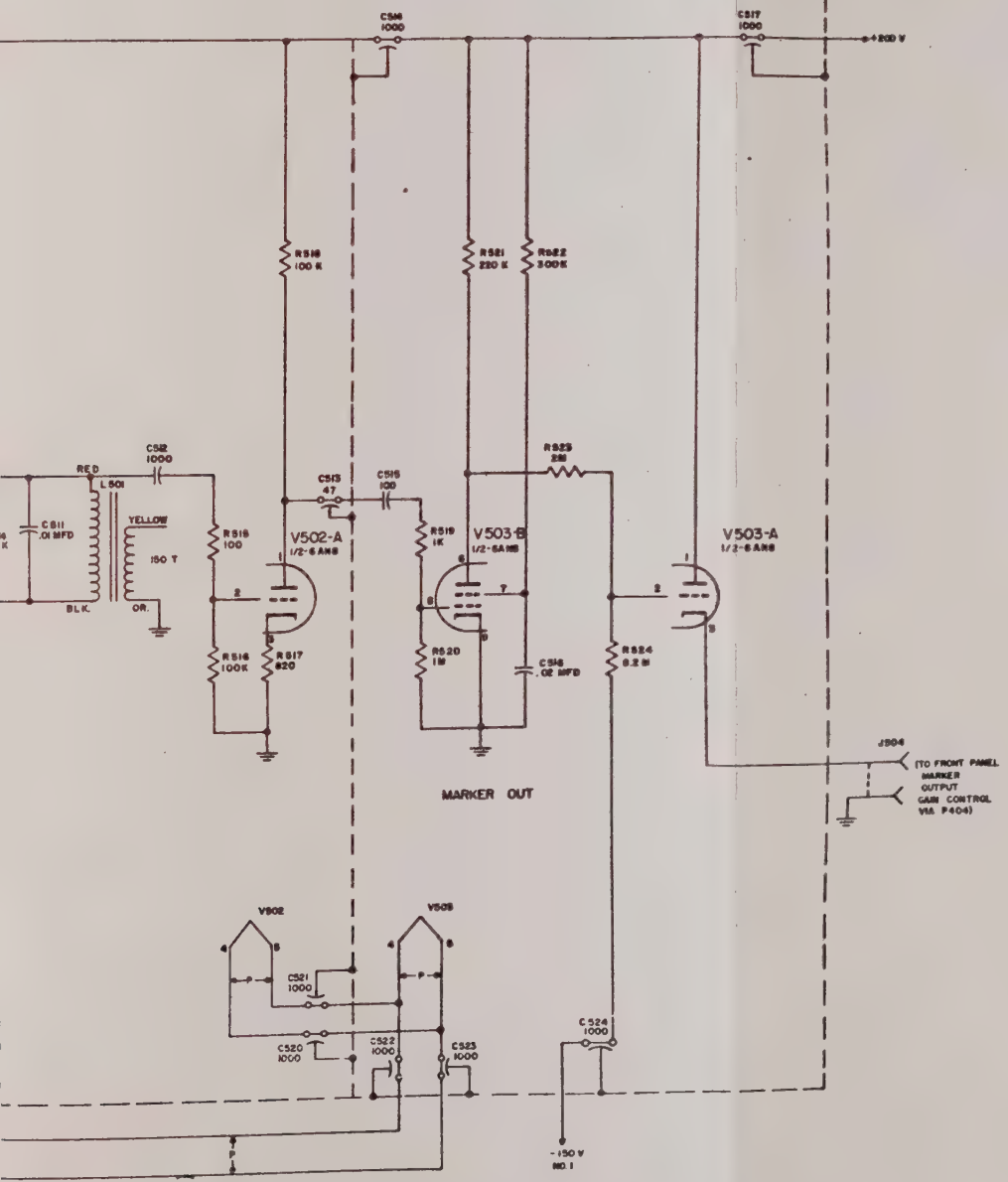


E861-457

1015	DIMENSIONAL TOLERANCES		TITLE		
			SCHEMATIC		
			MIXER & VIDEO AMP		
			MODEL 1015		
			SERIES A,B,&C		
	J CABRY 12-10-62				E861-457
					SHEET 1 OF 1


FROM MIXER VIDEO AMP VIA P403 & P502 MS SAMPLE IN J502
FROM MIXER VIDEO AMP VIA P408 & P503 BIRDY IN J503
C505 1000
R505 10K
R506 47K
C506 100
C509 2000
CR501 IN 34
R507 51
R510 47K
C502 2.2
V501
6AU8
V502-B
1/2-6AN8
J501
MARKER OSC IN FROM COAX SWITCH S4-J4 VIA P5C: B P4
C501 50
R502 10
C503 .02 MFD
R508 220K
C507 47
R511 1K
R513 100K
R501 51
R503 10K
R504 150
C504 .02 MFD
R509 100K
C508 2000
R512 1M
C510 .02 MFD
BUFFER
MARKER AMP
V501
C548 1000
C548 1000
6.3V AC NO.1
E861-447-0

MATIC
ER, & MARKER AMP.
L 1015
B,&C



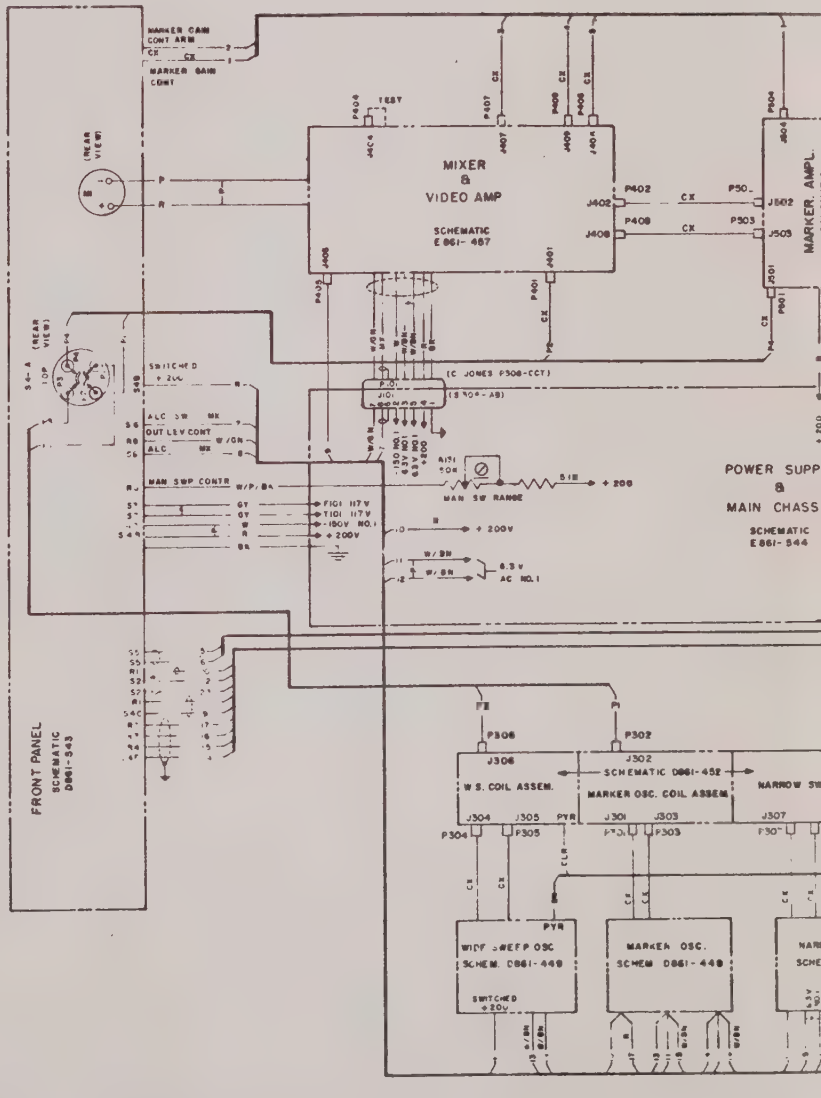
NOTES
1 ALL RESISTOR VALUES IN OHMS, 1/2 WATT UNLESS OTHERWISE SPECIFIED.
2 ALL CAPACITOR VALUES IN PF UNLESS OTHERWISE SPECIFIED

USED

	DESCRIPTION	PART NO.	REV	SPECIFICATION
	LIST OF MATERIAL			
1015	DIMENSIONAL TOLERANCES UNLESS OTHERWISE SPECIFIED	TITLE: SCHEMATIC BUFFER, MIXER, MARKER AMPLIFIER MODEL 1015 SERIES A,B,&C		ELECTRONICS CORP.
	MATERIAL			PART NO. E861-447
	SCALE	DRAWN LYDIPS 10/25/62	CHECKED DATE	ENGINEER DATE
				SHEET 1 OF 1

INTERCONNECTION

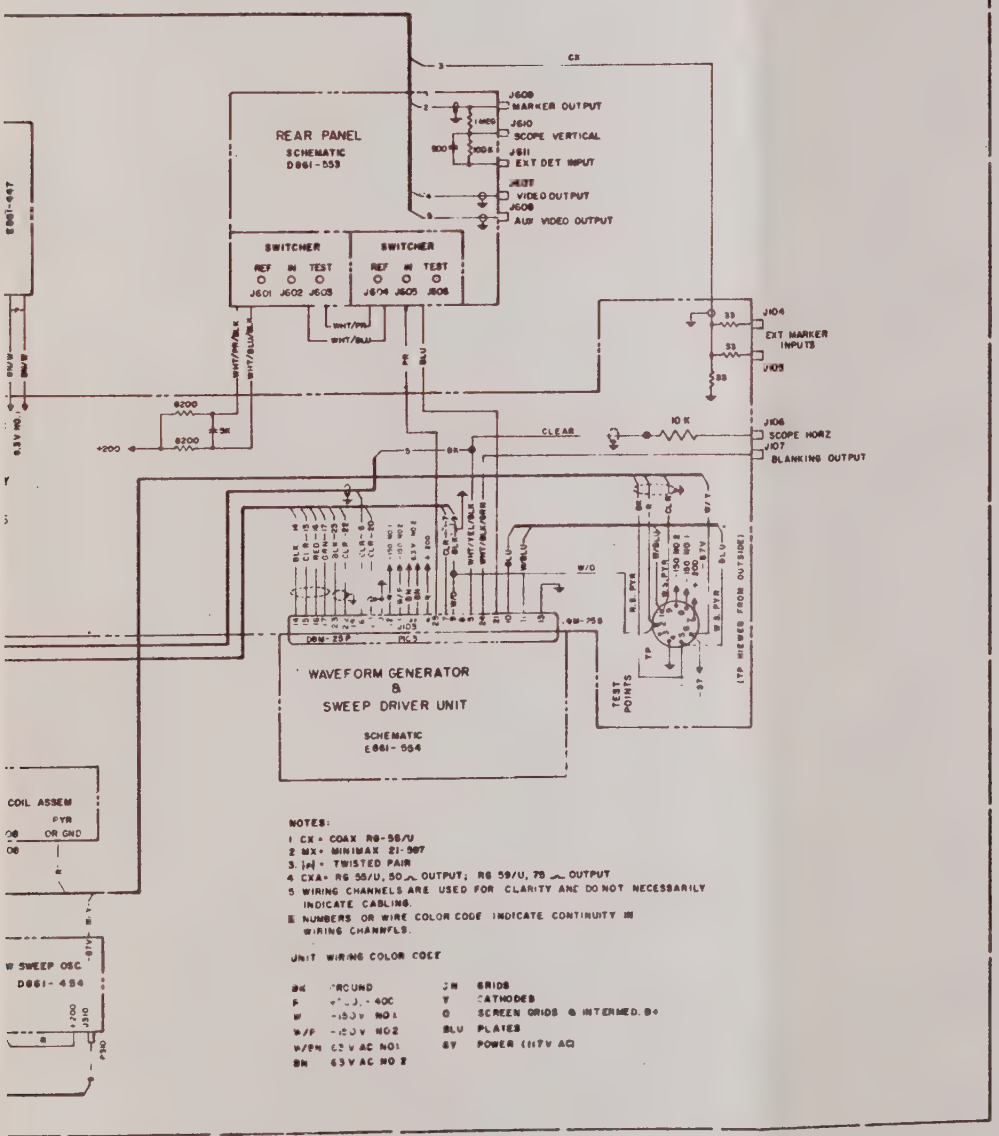
1015 SWEEP GENER
SERIES C



E862-040-0

DIAGRAM

ATOR



NOTES:

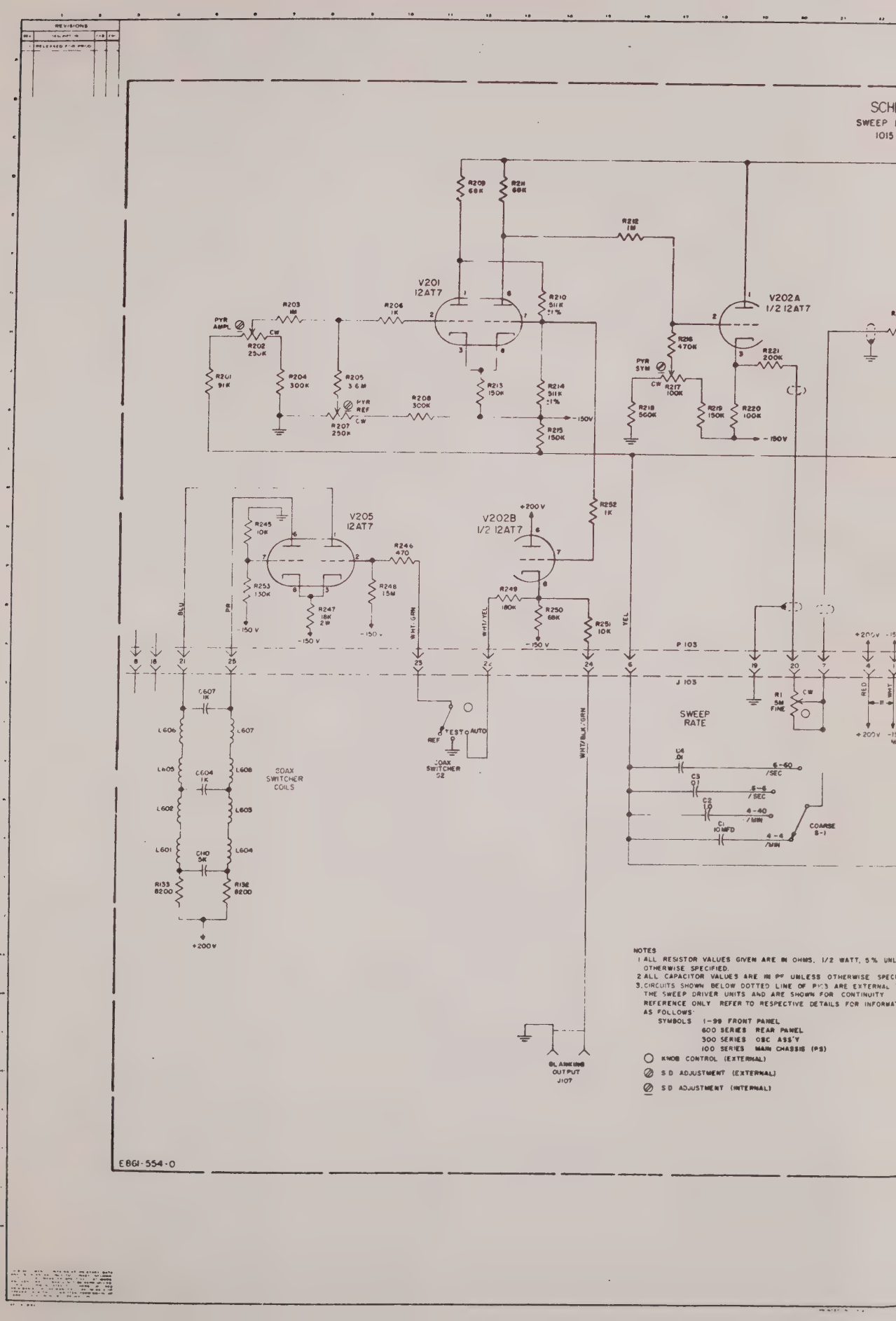
1. CX = COAX RG-58/U
2. MX = MINIMAX 21-307
3. TP = TWISTED PAIR
4. CXA = RG 58/U, 50Ω OUTPUT; RG 59/U, 75Ω OUTPUT
5. WIRING CHANNELS ARE USED FOR CLARITY AND DO NOT NECESSARILY INDICATE CABLING.
6. NUMBERS OR WIRE COLOR CODE INDICATE CONTINUITY IN WIRING CHANNELS.

UNIT WIRING COLOR CODE

BK	GROUND	GR	GRIDS
P	+150 V, +40	V	CATHODES
W	+150 V NO 1	O	SCREEN GRIDS & INTERMED. G
W/P	+150 V NO 2	BLU	PLATES
W/BN	63 V AC NO 1	6V	POWER (6.3 V AC)
BN	63 V AC NO 2		

INTERCONNECTION DIAGRAM
1015 SWEEP GENERATOR
SERIES C

E862 040
SHEET 1 OF 1



NOTES

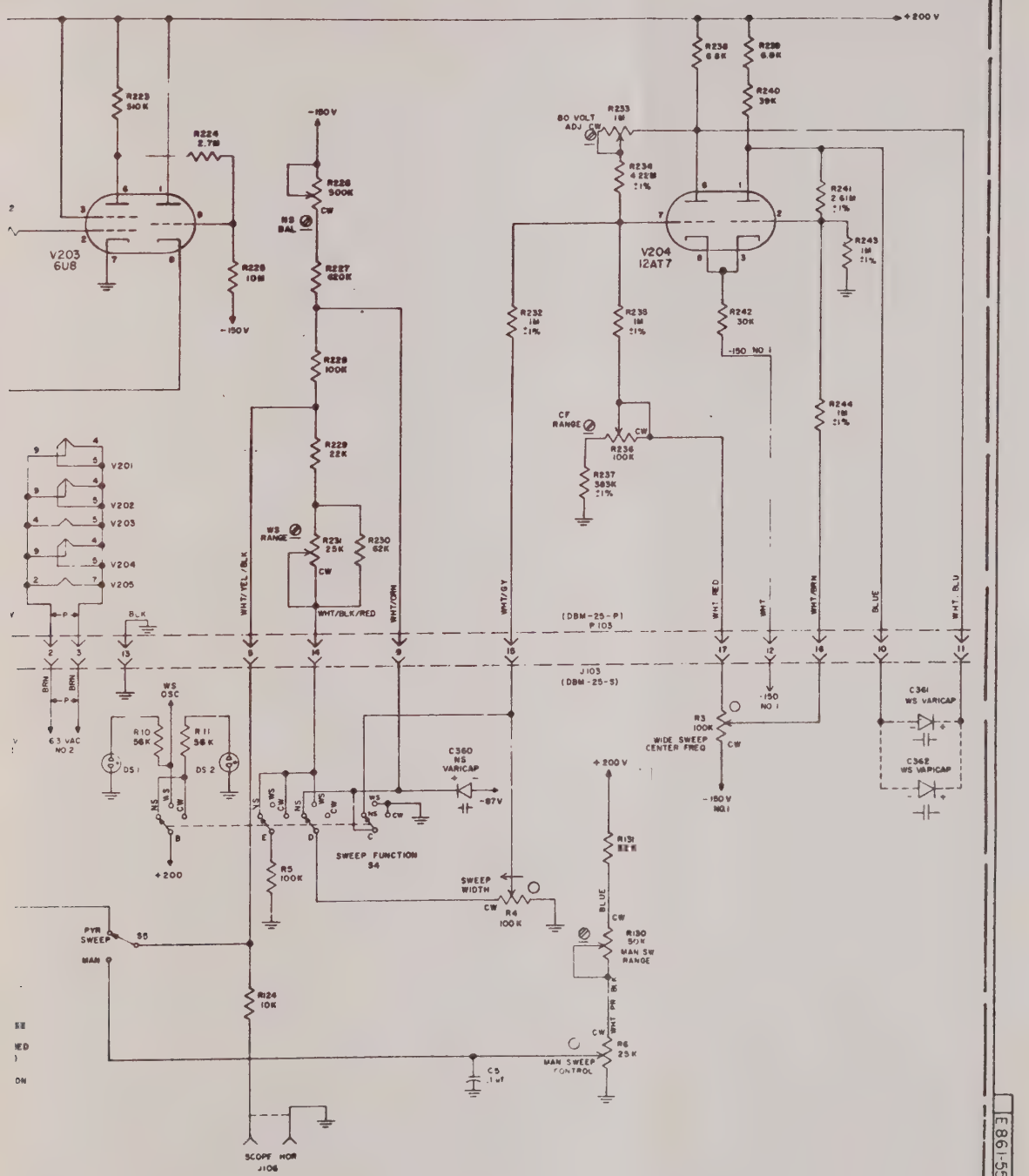
1. ALL RESISTOR VALUES GIVEN ARE IN OHMS. 1/2 WATT, 5% UNL
   OTHERWISE SPECIFIED.
2. ALL CAPACITOR VALUES ARE IN PF UNLESS OTHERWISE SPEC
3. CIRCUITS SHOWN BELOW DOTTED LINE OF P103 ARE EXTERNAL
   THE SWEEP DRIVER UNITS AND ARE SHOWN FOR CONTINUITY
   REFERENCE ONLY REFER TO RESPECTIVE DETAILS FOR INFORMA
   AS FOLLOWS:
   SYMBOLS 1-99 FRONT PANEL
   600 SERIES REAR PANEL
   300 SERIES OSC ASS'Y
   100 SERIES MAIN CHASSIS (PS)

○ KNOB CONTROL (EXTERNAL)

⊘ SD ADJUSTMENT (EXTERNAL)

⊘ SD ADJUSTMENT (INTERNAL)

MATIC
IVER UNIT
ERIES C

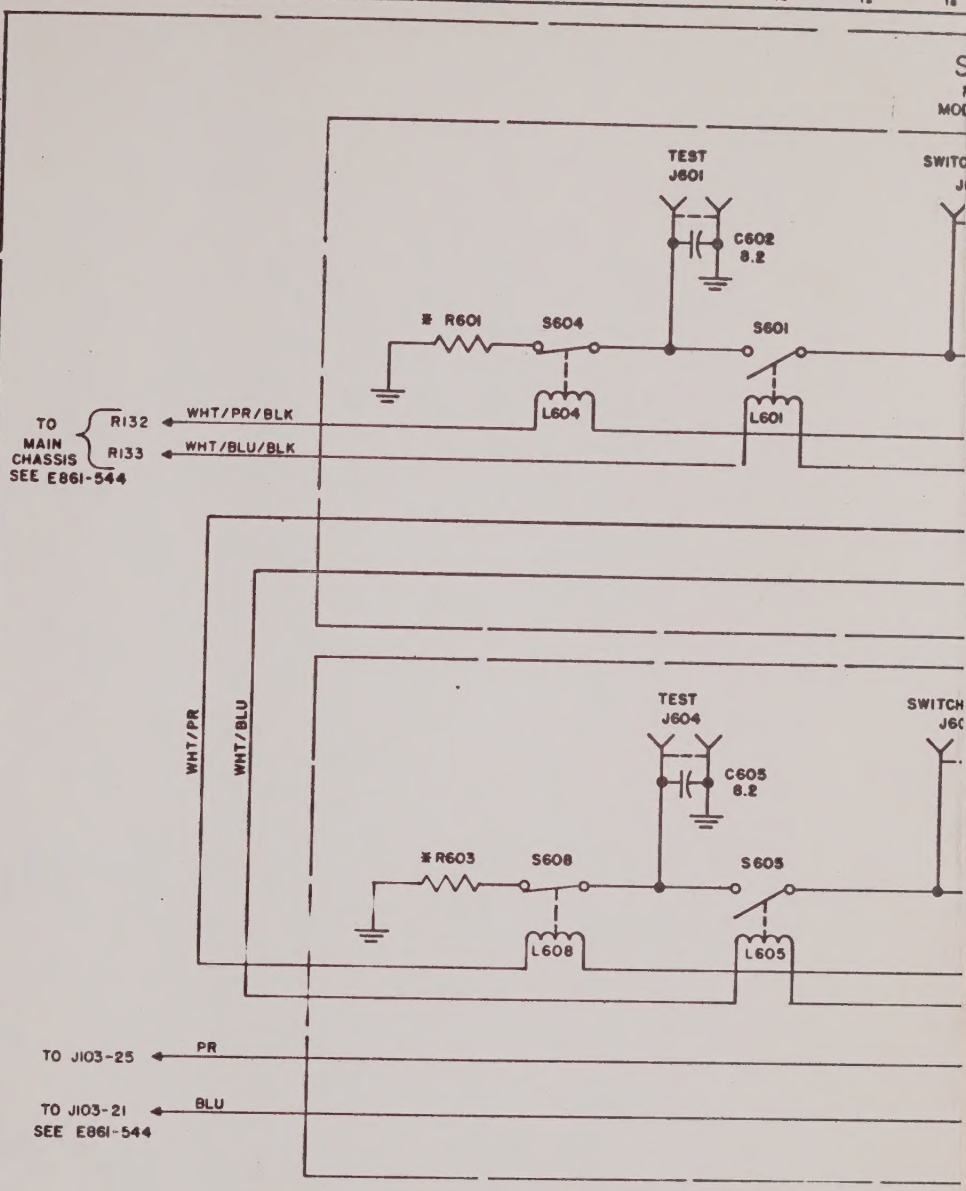


E 861-554

SCHEMATIC
WAVE FORM GENERATOR / SWEEP DRIVER
015 SERIES C

E 861-554
SHEET 1 OF 1

REVISIONS			
REV	DESCRIPTION	CKD	ENG
J	RELEASED FOR PROD		



NOTES

1. ALL RESISTOR VALUES OHMS, 1/2 WATT UNLESS OTHERWISE SPECIFIED.
2. ALL CAPACITOR VALUES GIVEN IN PF, UNLESS OTHERWISE SPECIFIED.
3. SWITCHES SHOWN IN "REF" POSITION OF SELECTOR SWITCH

* NOTE

75 OHM MODEL R601, R602, R603, & R604 VALUES 75 OHM, 1/2 W, 1%
50 OHM MODEL R601, R602, R603, & R604 VALUES 50 OHM, 1/2 W, 1%

D861-553-0

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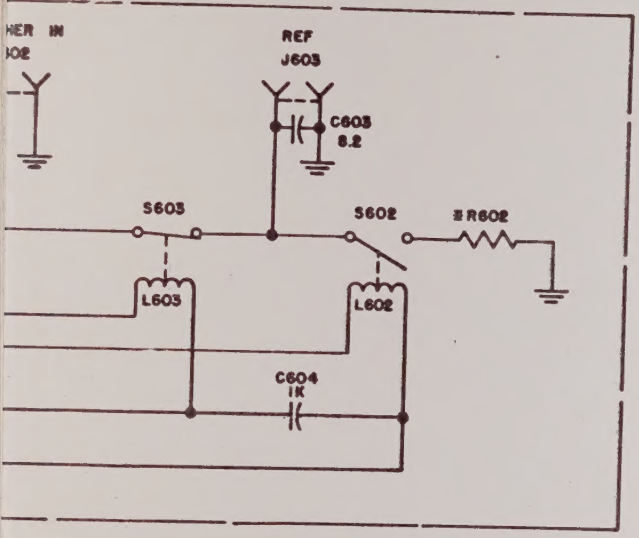
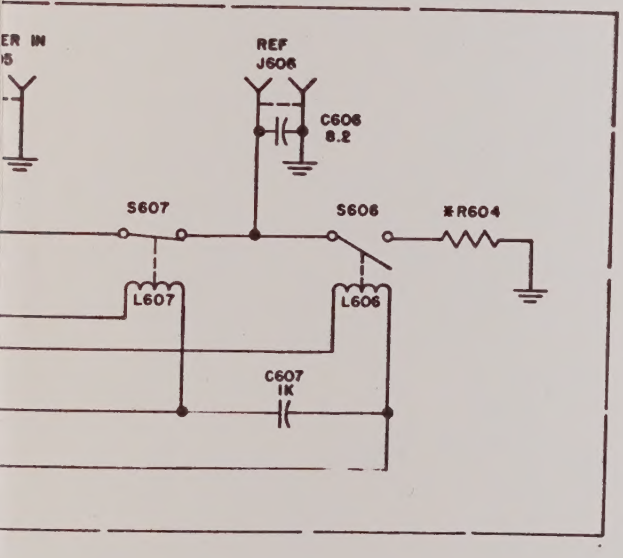
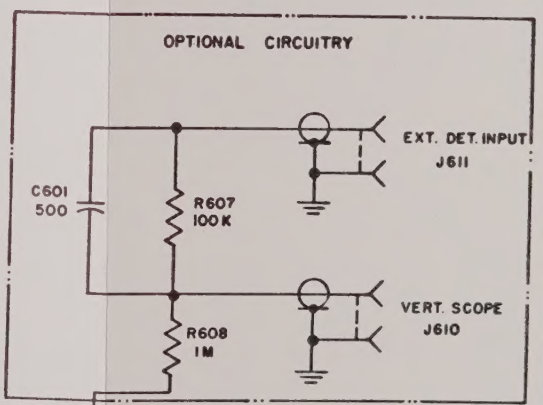
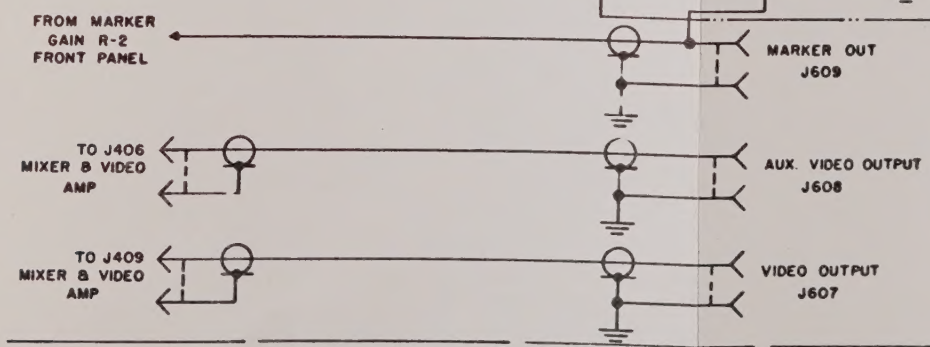
CHEMATIC
EAR PANEL
EL 1015 SERIES "C"









LAST USED
C607
J611
L608
R608
S608

QTY	DESCRIPTION	PART NO	ITEM	SPECIFICATION	DESIGNATION OR NOTES
	LIST OF MATERIAL				

DIMENSIONAL TOLERANCES UNLESS OTHERWISE SPECIFIED
LINEAR .01
MOLES 1:128 .002
ANGULAR 1°
REMOVE ALL BURRS AND SHARP EDGES. RADII, FILLETS AND BREAK EDGES TO BE .005 TO .020
ALL DIMENSIONS UNLESS OTHERWISE SPEC

TITLE
SCHEMATIC
REAR PANEL
MODEL 1015 SERIES "C"

MATERIAL
FINISH

ELECTRONICS CORP.
ENGINEERING LABORATORY
HATBORO PA.

SCALE	DRAWN	DATE	CHECKED	DATE	ENGINEER	DATE
	J. CABRY	8-19-63				

REV 0
PART NO. D861-553
SHEET 1 OF 1

1015 ITEM NO
NEXT ASSEMBLY

D861-553

~~401 Walnut st.~~
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